# CHAPTER ONE

## Research Proposal

## 1. Procurement Process in Construction Projects in Sudan

### 1.1. Introduction:

The construction industry is considered as one of the most important industries throughout the world. The industry, in particular, plays a vital role in the economy of the developed and under developed countries. The product of this industry comprise of different services i.e. infra and super structures. The construction industry in Sudan represents about 4.7% of the national gross domestic product for the year 2011. This reflects the effect of the industry on the expected development required to confront the national strategic plans[4].

The way in which the project is delivered is known as procurement process. This process constitutes a key stage in getting any type of works, goods or service. It contains technical, fiscal, administrative and legal aspects.

This process should be conducted in a manner that substantial and procedural requirements are to be complied. This research addresses the variations in conducting this process between the local practice and the commonly used standards worldwide[7].

## 1.2. The research components:

This research followed the scientific way of making researches as classified below:

### 1.2.1. Scope of the Research:

The study will confine itself only to the construction industry in Sudan and will be on establishing the supplier/vendor selection determinants in the procurement process together with assessing the substantive and procedural issues regarding the process of procurement.

### 1.2.2. Research Problem:

From his experience in the field of construction industry, the researcher observed that there are some problems arise in practicing procurement and tendering processes. These problems were reflected in terms of drawbacks or wrong decisions taking. The main questions about this issue were summarized as:-

a. Are there any local standards in conducting procurement processes?

b. Is it easy to select the suitable supplier or vender to implement a project?

c. Does the achievement of the project objectives depend on the method of project procurement?

d. Does the awareness of procurement bases exist among the population of local construction industry?

e. Are there any initiations toward establishing local standards?

f. What are the current used procedure in conducting tendering and procurement processes?

**1.2.3. Research Hypotheses :** This research adopted the following hypothesis:

a. Following standardized methods assist in successful achievements in project procurement.

b. The lack of knowledge about ideal procurement procedures influences the project outputs.

c. Local entities in concern and policy makers have their strong attempts in putting things in order.

d. Local practice methods lead to substantial success.

**1.2.4. Research Methodology:**

In order to answer the research questions and to test the hypothesis, a logically sequenced framework is established

composed of two main parts. The first part is the theoretical part where a literature was reviewed in the field of the research. Reliable references such as books, journals, papers and researches were proposed to be the main source of this part. The second part is represented by the practical session in which data is collected from the research population using a formal standardized questionnaire as a tool. Looking to test and quantify hypotheses, the data is to be analyzed statistically using SPSS program and then the interpretation of results will be carried in the light of the theoretical part in order to overcome areas of shortcomings by suitable recommendations and legislation looking for more successful professional outputs.

### 1.2.5. Research objectives:

The general objective of this study is to investigate the determinants of supplier selection in the procurement process and to assess the local principles in practicing this process in comparison with the common standards.

### 1.2.6. Significance of the Research:

This study is significant in the sense that it will put into perspective the exact determinants for vendor/supplier selection and the best methodologies to purchase such

construction materials, goods, equipment, workmanship or any other relevant services. . The categories of vendors/suppliers could be defined before awarding a contract. The study will also be valuable to business consultants and give a map road for policy makers to set legislations toward perfection of the profession.

# CHAPTER TWO

## 2. Procurement Systems and Procedure

### 2.1. Introduction

Most public and private sector organizations maintain adequate organization procurement procedures to guide those involved in procurement systems and practices within the organization. These instructions need to provide a framework and operating practices that address how the organization will undertake and manage its procurement activities to obtain value for money, probity and accountability.

### 2.2. Objectives of Chapter:

The objective in this Chapter is to provide with an enhanced understanding of procurement strategy and the development of procurement policies, systems and procedures.

### 2.3. Purchasing Objectives[2]:

The objectives of a world-class purchasing organization move far beyond the traditional belief that purchasing primary role is to obtain goods and services in response to internal needs. To understand how this role is changing, we must understand what purchasing is all about, starting with the primary objectives of a world-class purchasing organization.

## 2.4. Objective One: Supply Continuity

Purchasing must perform a number of activities to satisfy the operational requirements of internal customers, which is the traditional role of the purchasing function.

More often than not, purchasing supports the needs of operations through the purchase of raw materials, components, subassemblies, repair and maintenance items, and services. Purchasing may also support the requirements of physical distribution. (2)

## 2.5. Objective Two: Manage the Purchasing Process Efficiently:

Purchasing must manage its internal operations efficiently and effectively, by performing the following:

a. Determining staffing levels
b. Developing and adhering to administrative budgets.
c. Providing professional training and growth opportunities for employees.
d. Introducing procure to pay systems that lead to improved spending visibility, efficient invoicing and payment, and user satisfaction.

Purchasing management has limited resources available to manage the purchasing process and must continuously work toward improved utilization of these resources.(2)

### 2.6. Objective 3 : Support Organizational Goals and Objectives

This objective implies that purchasing can directly affect (positively or negatively) total performance and that purchasing must concern themselves with organizational directives. For example, let's assume an organization has an objective of reducing the amount of inventory across its supply chain. Purchasing can work with suppliers to deliver smaller quantities more frequently, leading to inventory reductions. Such policies will show up as improved performance on the firm's balance sheet and income statements. In so doing, purchasing can be recognized as a strategic asset that provides a powerful competitive advantage in the marketplace.(2)

### 2.7. Definition of Procurement:

"The term Procurement Process is used in this paper to describe the process required to supply equipment, materials and other resources required to carry out a project. This process usually involves sub-processes such as acquisition, purchasing, logistics, monitoring, quality assurance and contract administration."(5)

Relationship between the procurement function and organizational objectives and strategies are closely linked in the public sector. Unlike private sector organizations where the primary focus is profit, the public sector pursues a range of political and socio-economic goals that may conflict with usual commercial procurement practices.

Although there are many similarities between public and private sector procurement, the most significant difference from a public procurement viewpoint is the requirement to consider political and socio-economic policy when assessing value for money.(3)

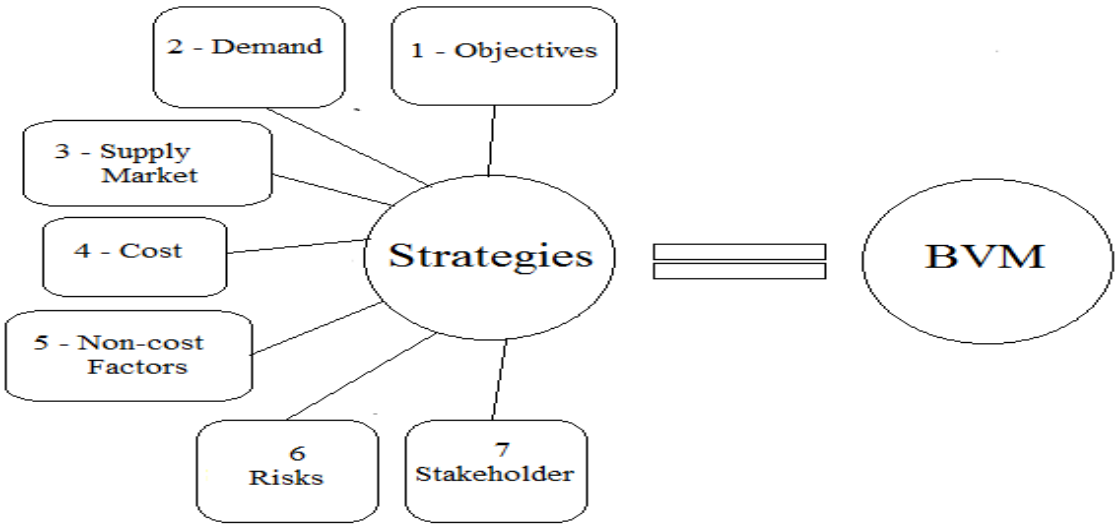



Figure2.1: The relationship between the "Best Value for money" facilitated by the development of the 6 factors of the procurement strategy.

## 2.8. The impact of procurement on organizational objectives and Strategies.(3)

The comments on the relationship between procurement and the organization's objectives/strategies contained in the previous section may apply to individual business units or offices. Unfortunately, the contribution procurement can make to organizational objectives/policies/strategies has been virtually ignored by some organizations in the public sector. In industry, long-term objectives/policies/strategies for the development, acquisition, operation

and maintenance of required facilities, equipment, goods and services are seen as critical success factors requiring the input of highly trained and experienced procurement professionals. Procurement objectives and strategies can include:

a. Consideration of matters such as strategic partnerships.
b. Early supplier involvement in projects.
c. Cross-functional procurement teams.
d. On site contractor repair facilities.
e. investment in inventory, and
f. financial hedging

## 2.9. Division of responsibilities in procurement

We now want to focus on the broad division of responsibilities in procurement. This broad allocation of responsibilities, together with appropriate authorities, forms the basis of how procurement is organized within a business unit. Procurement systems and procedures are then used to support this broad allocation.

Obviously, there is no one perfect organization for procurement activities. Nevertheless, the division of responsibilities outlined in the following is one that has stood the test of time in a broad range of organizations. Procurement responsibilities are usually divided between management, clients and end-users, technical staff, financial staff, and procurement staff,(See Table 2.1).[1]

## 2.10. Market Research:

### 2.12.1 Definition:

Market research can be defined as:

"The process of gathering, analyzing and interpreting information about a market, about a product or service to be offered for sale in that market, and about the past, present and potential customers for the product or service; research into the characteristics, spending habits, location and needs of your clients' target market, the industry as a who/e."(1)

## 2.13 Purpose of market research:

Market research is conducted to determine if goods and services are available to meet a customer's needs or could be modified to meet a customer's needs. It should also lead to a clear understanding of the business practices and preferred commercial terms and conditions of the supply market and be used to facilitate the tailoring of a procurement strategy (including tailoring of the bidding document, specification, evaluation criteria and evaluation method).(2)

As the purpose of market research shall reach the most suitable approach of acquiring, distributing, and supporting goods and services; so you should focus on the way the focal market operates as much as on the attributes of the product or service. The objective is to understand how the commercial sector handles such things as:

a. terms and conditions
b. insurances
c. warranties
d. maintenance
e. marketing
f. marking and packaging of goods
g. after sales service
h. lead time and deliveries

## 2.14 Responsibilities and benefits:

### 2.14.1 Responsibility for market research:

Market research is the responsibility of procurement staff and should not be passed on to suppliers or on to other parties who may not respect or appreciate its confidentiality. Market intelligence obtained through the process of market research informs procurement strategy and could undermine the organization's position in the market if it finds its way into the wrong hands. Buyers must actively monitor the marketplace and be capable of researching the market without making unwarranted requests for documentation from potential sources.(3)

In undertaking market research you may need to communicate with supply market participants through meetings and draft documentation reviews in order to improve the quality of your requests for proposals and specifications. However, you must be evenhanded and impartial in dealings with potential suppliers, and guard internal information.

Market research should be part of your daily responsibility as a buyer.

Your organization will determine your role in procurement. But everyone in procurement does market research. Sometimes it might be a one-person effort, other times a team effort.

Ideally, procurement officers or a procurement team should partner with requisitions and end users on market research as soon as needs are forecast and as part of procurement planning. If not possible prior to this point, procurement officers and any technical representatives should begin market research upon receipt and acceptance of the requests.[3]

## 2.15 Benefits of market research:

Thorough market research will be of critical importance in describing the client's need, developing the overall procurement strategy, and identifying terms and conditions appropriate for the goods and services being acquired. Identifying 'terms and conditions' might seem outside the scope of market research. However, contract clauses should wherever practicable be consistent with standard commercial practice for the procurement of the item as identified in market research.

Remember that as you develop this new capability, your investment in researching the marketplace will help you achieve the benefits of procurement commercially available items. These benefits include:

a. An accurate, up to date understanding of market for the goods and services under purchasing process.

b. Timely delivery of affordable, quality goods and services that meet the needs of end-users.
c. Streamlining of the procurement process, especially the procurement of commercially available items.
d. Educations of wastage, time and costs throughout the procurement process and in delivered goods and services.[3]

## 2.16 Undertaking market research:

Procurement officers use various tools to carry out effective market research including:

a. Creating, modifying or upgrading technical libraries.
b. Communicating and liaising with potential suppliers.
c. Active participation in professional organizations.
d. Subscribing to on-line services and newsletters.
e. Attending technical/marketing/supplier trade fairs.
f. Undertaking training in market research techniques.
g. Seeking other ways to keep current in the marketplace.

## 2.17 Market research techniques:

Market research has two parts surveillance and investigation. The sources of information vary between the two, with some overlap.

a. Surveillance can be characterized as active and continuous participation in your profession.

b. Investigation can be characterized as focusing market knowledge to meet a specific, maturing requirement or as directed research.[5]

### 2.17.1 Some potential sources of information are:

a. Contacting knowledgeable individuals regarding market capabilities.
b. Obtaining source lists from other organizations.
c. Reviewing the results of recent market research.
d. Searching databases (e.g., the United Nations Global Marketplace or Kompass).
a. Participating in interactive, on-line communication.
b. Publishing formal or informal requests for information.
c. Reviewing catalogues/brochures/product literature.
d. Conducting supplier meetings or pre-requests for quotation.
e. Contacting professional organizations or consultants.
f. Conferences, exhibitions and trade fairs.

## 2.18 Analysis of market research information

Once the compile information is being gathered in various formats, then information will be needed to be analyzed to determine how the best it can be used. The amount of analysis may be dependent on the time available or any other specific objectives you have at the time. It may also need to separate fact from fiction, as some information was collected about the product or company may be

worded to portray the supplier in a certain light .The gathered information may also highlight interrelationships, patterns and trends ,all of which is important information for procurement actions .For example, you may find that two different suppliers are owned by the same parent company, or the one company produces product sunder two different brand names. It is important therefore to try and make sense of the information and organize it properly.[5]

**Recording and reporting of market research information**

Many procurement officers take an ad-hoc approach to collecting and storing information. Often, this means unnecessary duplication by a range of people , rather than an organized system of collecting, recording and reporting. Time needs to be spent to organize the information. Once this has been completed, it is necessary to determine how this information can best be used or accessed not only by procurement section, but also other people.[3]

## 2.19 Market research ,when undertaken properly:

a. Is collected depending on need, urgency and cost.
b. Is analyzed to determine the best range of useful and quality information on products and suppliers.
c. Is recorded and organized properly, either in electronic or hard copy form.

d. Is reported to appropriate personnel.

## 2.20 The Purchasing Process:

Chain of command and road map of the procurement and purchasing process are mainly consisting of ten stages series actions: (Operational procurement planning), (Requirements definition), (Sourcing), (Selection of procurement strategy), (Preparation & issuance of solicitation documents), (Receipt and opening of offers), (Evaluation), (Contract review and award), (Contract finalization & issuance) and (Contract management). [6]

The flowchart below shows each of the stages in the procurement process.

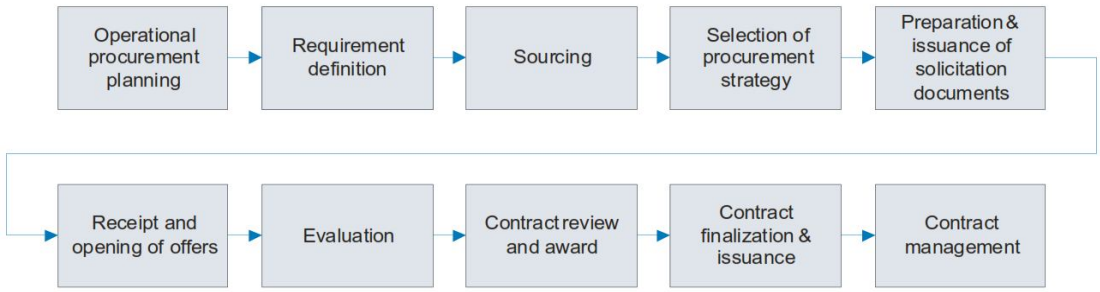



Figure 2.2: Chain of stages in the Procurement Process

## 2.21 Requirement Definition:

Requirement definition involves defining and describing what is needed and will be procured, collecting information, identifying appropriate solutions and specifying these in specifications for goods and

equipment, terms of reference (TOR) for services, or statement of works (SOW) for civil works.

Specifications, TOR and SOW constitute the technical basis for the solicitation and the evaluation of offers to determine if they satisfy the requirements as stipulated in the solicitation documents. They become the "heart" around which the eventual contract is written and later administered. They have an effect on the procurement that lasts its entire lifetime from planning, through bid evaluation, award and contract performance up to completion and post-contract evaluations. A clear and appropriate definition and description of the need is of utmost importance.[6]

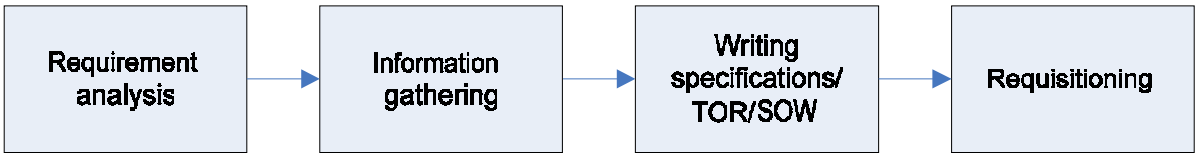



Figure: 2.3: The flowchart shows each of the stages in the requirement definition process.

## 2.22 Writing specifications/TOR/SOW for Civil Works:

The terms of reference (TOR) and the statement of works (SOW) including design/drawings, bill of quantities (BOQ) and technical specifications, should describe the works in sufficient detail to identify the location, nature and any complexities involved. The term "works" generally includes all types of civil, mechanical, electrical or other

engineering/installation services (other than consulting services) as well as the supply of construction materials and equipment included therein. Expected construction period and time in weeks or months, or where alternative time schedules are permitted, the range of acceptable construction periods, should be defined. In addition, information should be provided on the topography, geotechnical conditions, and access to site, transportation and communication facilities, project layout, services to be provided by the client representative, method of measurement and payment of completed works. The unique nature of works requires that detailed design specifications be provided and a complete description and specification of all goods, materials and works to be included in the delivery, including detailed drawings and the requirement that the supplier possesses the necessary qualifications with respect to capacity and experience and financial strength necessary to carry out the type of job requested. It is common practice to use the services of a consulting engineer to help in the completion of technical specifications for large and/or complex works. In cases where an external consulting engineer is used, this person/company could also be asked to prepare the details of the solicitation documents. However, in the following some general tips and things to remember for preparation of the SOW/BOQ/technical specifications is provided. In cases where a consulting engineer is used, these general tips can be used to check/follow-up on the work of the engineer.[6]

## 2.23 Content of specifications:

The statement of works (SOW) provides background and detailed information for the construction works. To be as clear and precise as possible, the (SOW) should include the sections/information shown in the table below:

<table>
<tr><th>Section</th><th colspan="2">Include</th></tr>
<tr><td>Background</td><td colspan="2">Describe the project, its purpose and functionality. This should include any relevant information that would help someone not familiar with the current situation to forma clear picture of what is required. This is also important as implied warranties for“fit for purpose” can be derived from detailed background</td></tr>
<tr><td rowspan="5">General Information</td><td colspan="2">Give all necessary general information, including but not necessarily</td></tr>
<tr><td>Topic</td><td>Guidelines</td></tr>
<tr><td>Location</td><td>Give precise information and a brief description of site accessibility and availability of major services such as electricity and water.<br>Location of sources of rough materials such</td></tr>
<tr><td>Legal status</td><td>Check the legal status of the titles for the plot where the construction will take place.</td></tr>
<tr><td>Site ownership</td><td>Clarify ownership of the site.</td></tr>
<tr><td>Designs and drawings</td><td>Indicate whether the designs are being provided or should be elaborated by the supplier.<br>Check that the designs have been registered and comply with local regulations, clarify who is responsible for what in that respect.</td></tr>
</table>

<table>
<tr><td rowspan="4"></td><td>Right of way</td><td>Check if right of way is needed (for locations where access is through other properties) and clarify who is responsible for what in that</td></tr>
<tr><td>Budget</td><td>Check available budget.</td></tr>
<tr><td>Deadline</td><td>Check if there is a deadline for the execution of the works and indicate it accordingly in the solicitation documents.</td></tr>
<tr><td>Supervision</td><td>Define supervision costs that should be borne by the supplier (e.g. office space at the site, telephone, electricity, mobility, PCs and other equipment, lodging if needed).</td></tr>
<tr><td rowspan="4">Supplier requisites</td><td colspan="2">Request information about the bidding company. This is used to assess the capacity and quality of suppliers during evaluation. Consider the following topics.</td></tr>
<tr><td>Topic</td><td>Request information about</td></tr>
<tr><td>Experience</td><td>•Number of similar works (measured by contract’s value) undertaken in last ten years.<br>•Client references.</td></tr>
<tr><td>Minimum personnel</td><td>Function and qualifications required by each key personnel (for example, chief resident, residents for electricity/ civil works, specialists).</td></tr>
<tr><td>Financial capability</td><td>•The balance sheet to shows debt ratios, and working capital demonstrating free availability equivalent to the estimated value of two/three monthly payment certificates.<br>•For major construction works, an estimated investment curve is usually included in the feasibility study from where the working capital can be derived.</td></tr>
</table>

| | | |
|---|---|---|
| | Minimum equipment | •Minimum number and characteristics of equipment needed to undertake the works.<br>•During the evaluation process, age of equipment is often taken into consideration. |
| | Construction methods | •Construction methods/approach.<br>•Program of works, presentation, mobilization ,in what order various steps will be made etc. |

Table 2.b: Sections and Information of the Scope of Work.[4]

## 2.24 Requisitioning:

When the specifications/TOR/SOW has been finalized, a formal requisition can be created. Most public sector authorities use a formal requisition process for all procurement activities. Requisitions can be submitted by clients to the organization, program staff to procurement officers, field staff to centralized procurement support staff etc. Requisitioning is conducted in different ways in various organizations depending on the set-up and business structure of the requesting unit. In general, the following applies if a requisition process is used.[4]

## 2.25 Sourcing:

Sourcing is defined as a technical activity with the purpose of identifying existing suitable products and services on the market and qualified suppliers available to provide those products and services. Sourcing also aims at collecting and analyzing

information about capabilities within the market to satisfy the organization's requirements, such as obtaining updated cost information, determining the appropriate technology and alternative products, as well as identifying appropriate supplier qualification criteria.

Thorough sourcing process, leading to identification and invitation of relevant suppliers, ensures maximized competition, by allowing the most relevant and suitable companies to compete. Sourcing also leads to a better understanding of the market.[4]


Figure: 2.4: The flowchart shows each of the stages in the sourcing process.

## 2.26 Selection of a Procurement Strategy:

**2.26.1 Objective:** Once a fully funded and approved requisition is accepted by the procurement unit and appropriate sourcing has been conducted, the procurement officer's role is central in determining the appropriate procurement strategy.[1]

**2.26.2 A procurement strategy includes:**

a. Choice of the type of arrangement and/or contract to be concluded.

b. Choice of the procurement method.

c. Type of competition to be adopted to purchase the required goods/services/works.(1)

### 2.26.3 Process:

The process of identifying and selecting the appropriate procurement strategy can best be described as a series of decisions, rather than sequential stages that need to be followed in strict order. Normally, the procurement officer would only complete the most relevant stages based on organizational practice, and the procurement officer's experience.(1)

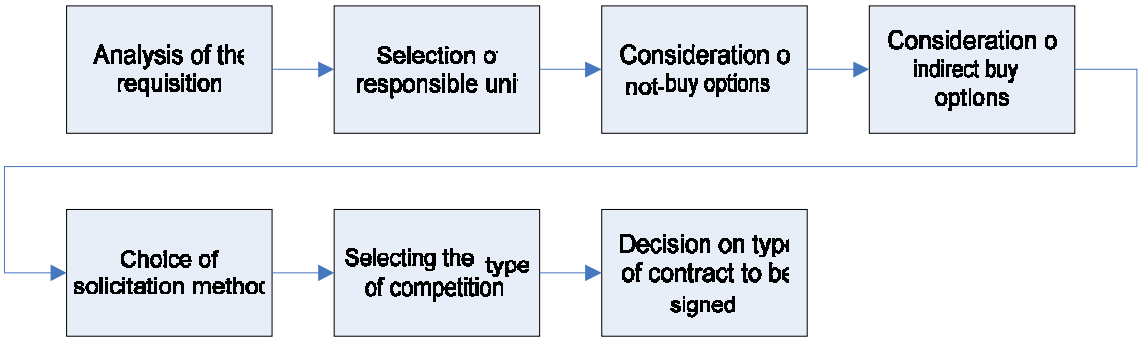



Figure2.5: Logical stages in the selection of a procurement strategy process

### 2.26.4 Selecting a procurement strategy first involves analyzing the requisition and determining the:

a. Nature and specifications of the requirement.

b. Expected value of the procurement action.

Once the above have been determined, then the following decisions can be taken:

a. Whether to procure the item or to make/lease/rent it
b. Whether to procure through an existing agreement without obligation or commitment between two parties such as the long term agreements (TAs).
c. Whether to conduct a new competitive solicitation process.

   Which solicitation method to be used: Mainly, procurement process can be obtained through (1) Request for quotation (RFQ) used for low value purchases and well defined products and services (2) Interest to bid (ITB) as a formal method of soliciting competition, suppliers used to be asked to submit an offer to provide a product or service strictly as it is described in the solicitation documents. (3) Request for proposal (RFP)- proposals are submitted against requirements that are not fully definable at the time of solicitation. Suppliers may offer alternative approaches to providing the required product or service.[1]

d. Which competition should be chosen (limited, open or waiver).

**2.27 Preparation and Issuance of Solicitation Documents:**

The content of solicitation documents varies from one organization to another and according to the procurement method and complexity of the requirement. The document structure, however, generally includes some or all of the following items:

a. Letter of invitation.
b. Instruction to supplier
c. Schedule of requirements.
d. Technical description (specifications, TOR, SOW including design/drawings/BoQ technical specifications for works).
e. General terms and conditions.
f. Special terms and conditions.
g. Sample contract and other forms.

For (RFQ), the above items are often reduced to the letter of request.[4]

## 2.28 Receipt and Opening of Offers:

After the solicitation process, offers are received, registered, handled, opened and stored by authorized staff members. The purpose of this formal process is to ensure that offers are received, handled and opened according to the instructions provided in the solicitation documents and that transparency and confidentiality is maintained as specified in the relevant regulations, rules and procedures of the company/owner. Therefore, this process is usually handled by an independent authority within the company/owner normally not directly involved in the procurement function.[1]

## 2.29 Process:

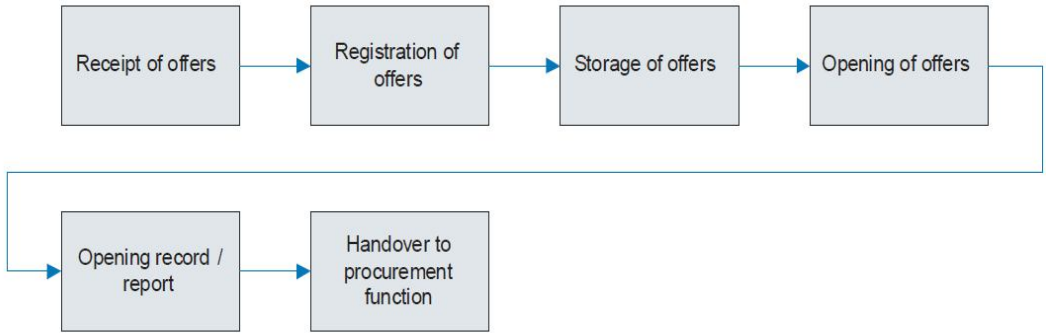



Figure 2.6: The flowchart above shows each of the stages in the receipt and opening of offers process.

## 2.30 Receipt of offers:

Receipt of offers is normally performed by an individual not directly involved in the procurement function. In some organizations it is the same authority that is in charge of opening the offers. For quotations, it is usually the procurement officer in charge who receives them. As specified in the solicitation documents, offers should be received:

a. At the correct place, date and time.
b. In writing.
c. Via mail, courier service, hand delivery, fax or e-mail.

## 2.31 Registration of offers:

Upon receipt, the responsible person should properly record the date and time of delivery and issue a receipt to the supplier. The offers received should be recorded against the short list, who

received the solicitation documents, provided by the procurement officer.

**2.32 Storage of offers**

Offers received by fax or e-mail should be sealed in individual envelopes and kept in a secured place with the other sealed offers. The secured place should be accessible only by personnel duly authorized by the relevant authority until the date and time specified for opening.

**2.33 Opening of offers:**

The type of solicitation and the solicitation documents used will determine whether the opening of the submissions will be conducted in public and which type of information will be disclosed. *For example*:

- Quotations are normally opened internally.
- Bids are normally opened in a public bid opening.
- Proposals are usually submitted using a two envelope system

**2.34 Evaluation:**

**2.34.1 Introduction:**

The evaluation process consists of the preliminary examination and evaluation of the offers received, and considered to be valid, to assess their responsiveness to specifications and requirements as defined in the solicitation document, analyze their cost and benefit, and determine their price and value.

Evaluation is conducted by a designated evaluation team and in accordance with the relevant regulations, rules and procedures, using the evaluation criteria and method pre-determined in the solicitation document in order to conduct a fair and unbiased evaluation. The evaluation process also needs to be transparent, and therefore each step of the process documented in an evaluation report which subsequently is the basis for the recommendation of award.(1)

### 2.34.2 Developing the evaluation plan:

Depending on the complexity of the procurement, the evaluation plan may be summarized in a few lines, or consist of long details and descriptions of each stage in the evaluation process. The evaluation plan, like the evaluation criteria and method should not be changed after the solicitation document has been issued.

### 2.34.3 Using the evaluation criteria and method:

Upon the receipt and opening of offers, evaluation must be conducted according to the set of evaluation criteria and method, which have been established during the preparation of the solicitation documents. Depending on the complexity of the procurement, the evaluation criteria may be summarized in a few lines, or consist of long and precise descriptions of the steps of the evaluation necessary to ensure best value for money for the organization.

Evaluation criteria can be divided into the following categories:

- **Formal**: Offers are checked for their compliance with any formal criteria stated in the solicitation documents. Offers not meeting the formal criteria are rejected
- **Technical**: Technical evaluation criteria are derived from the specifications, TOR or SOW. Depending on the nature and complexity of the procurement to be undertaken, technical evaluation criteria may be summarized in a few lines or consist of a long and precise description.
- **Financial**: Price is an important evaluation criterion but the weight of the price depends on the chosen evaluation methodology (see below). It is important to clearly state in the solicitation documents which price factors will be included in the price used for evaluation. Various factors such as freight cost, operational cost, incidental or start-up costs, as well as life cycle costs could be taken into consideration.[1]

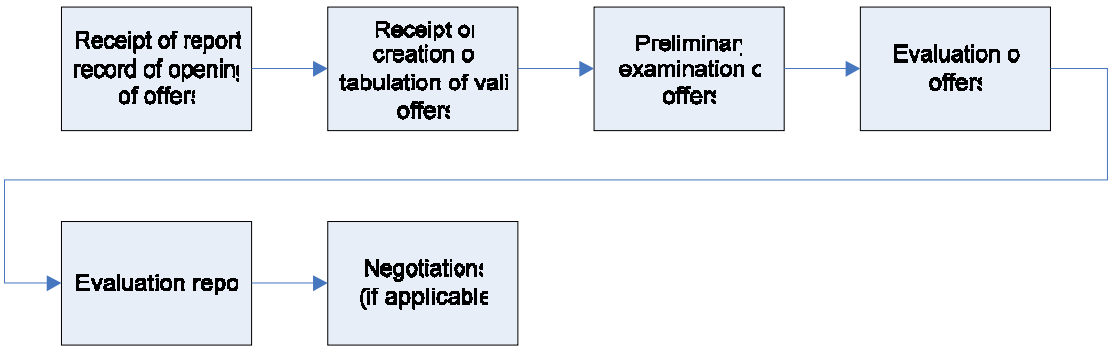


Figure 2.7: The flowchart above shows each of the stages in the evaluation process.

### 2.34.4 Evaluation of offers:

Offers which have passed the preliminary examination are evaluated based on the evaluation criteria and method stipulated in the solicitation document. Usually each evaluation follows the steps listed in the table below:

| No. | Action |
|---|---|
| 1 | Conduct technical / quality evaluation (including |
| 2 | Conduct financial / commercial evaluation. |
| 3 | Conduct supplier evaluation. |
| 4 | Clarify offers. |
| 5 | Draft synopsis of evaluation reports and comparative |
| 6 | Determine the most advantageous offer. |

Table 2.3: Steps of how to evaluate the bids through an agreed evaluation criteria.

### 2.34.5 Technical /quality evaluation:

Usually the technical evaluation is done independently from and prior to the evaluation of prices to keep the evaluation process objective. It is good practice to summarize the results of the technical / quality evaluation in a technical/quality evaluation

report. The responsible evaluation team should sign the report and forward it to the procurement officer/evaluation team responsible for the financial/commercial and supplier evaluation.(5)

### 2.34.6 Financial /commercial evaluation:

Financial evaluation of the proposals involves comparing the offers with the financial and commercial requirements stipulated in the solicitation document. During this step prices should be reviewed against prevailing market conditions, and whether they are reasonable in view of the requirements. It is also important to identify whether they are within the available budget for the project. It is good practice to summarize the results of the financial/commercial evaluation in a financial/commercial evaluation report. The responsible evaluation team should sign the report.(5)

## 2.35 Negotiations (if applicable)

Negotiations (if applicable) are an interactive process of discussions between the buyer and the supplier regarding the terms and conditions of a contract. In principle, negotiations are usually not undertaken after a competitive selection process. In some organizations and in exceptional circumstances negotiations may be permitted with the supplier of the offer that has been identified, as the result of an evaluation, as the preferred offer. In some organizations it also depends on the type of solicitation as to

whether negotiations are allowed or not. For example, some organizations do not allow negotiations when the solicitation method is an ITB. While most organizations agree that negotiations are allowed for RFP and where competition has been waived. In any case, negotiations should only take place after the evaluation has been successfully completed and a supplier has been selected. Negotiations are to be with the selected supplier only.(5)

## 2.36 Relationship between type of solicitation and evaluation methods:

| Type of solicitation | Chosen evaluation method |
|---|---|
| Request for Quotation (RFQ) | Lowest responsive / compliant / acceptable offer. |
| Invitation to Bid (ITB) | Lowest responsive / compliant / acceptable offer.<br>Where the weighted scoring system is used for the evaluation of the technical part of an ITB, a two envelope system should be in place for the submission of those ITBs, and subsequently also for the evaluation. |

| | |
|---|---|
| Request for Proposals (RFPs) | •A two envelope system, i.e. the technical and the financial proposals are submitted in two separate envelopes.<br>•The technical proposal is evaluated first and independently from the financial proposal.<br>•Only proposals meeting the mandatory and minimum requirements are considered further, i.e. their financial proposals are evaluated. The other financial proposals remain unopened. |

Table 2.4: The table above shows the relationship between type of solicitation and evaluation methods.[4]

## 2.37 Contract Review and Award:

### 2.37.1 Introduction:

Contract review is an essential step in the contracting process. Contracts or purchase orders (awarding authority).

Award is the formal decision and approval to establish a contract. The award phase marks the:

a. Successful conclusion of the procurement process.
b. Starting point for contract finalization and execution.

### 2.37.2 Objective:

The purpose of conducting a review prior to recommending awards is to:

a. Provide an independent and unbiased review of recommendations for contracts or purchase orders.

b. Ensure that the procurement process was fairly conducted and followed the appropriate policies and procedures.
c. Confirm the necessary budget for the contractual commitment is available.

### 2.37.3 Contract preparation:

Procurement officers are encouraged to refer to existing templates (see ANNEX II) or model contracts. If the contractual documents cannot be based on available templates, the procurement officer should ensure proper approvals and review by the appropriate officers before drafting new clauses.

Contractual documents should be based on the:

a. solicitation document and subsequent amendments and/or clarifications
b. Offer from the supplier and any subsequent.
c. Award recommendation.
d. Recommendations of the contracts committee.
e. Final decision taken by the awarding authority.

### 2.37.4 Contract signature:

Once the contract has been completed to the satisfaction of the company, the procurement officer should seek all required internal approvals and print two or three copies of the contract. The contract should be signed by an authorized representative of both the supplier

and the company. The procurement officer should also ensure that proper securities are in place, e.g. performance bond.

## 2.38 Contract Management

### 2.38.1 Introduction:

The terms "contract management" and "contract administration" are often used synonymously. However, "contract management" is commonly understood as a broader and more strategic concept that covers the whole procurement cycle including planning, formation, execution, administration and close out of a contract and goes beyond the day to day "administrative" activities in the procurement cycle. It is difficult to draw the line between the two terms.

### 2.38.2 Objectives:

The purpose of contract management is to ensure that all parties to the contract fully meet their respective obligations as efficiently and effectively as possible, delivering the business and operational outputs required from the contract and providing value for money. It also protects the rights of the parties and ensures required performance when circumstances change.

Contract management is similar to project management. Each contract is a mini-project. It has a unique goal, consumes resources, has a beginning and end date, and requires coordination and

planning of relevant activities, as well as documentation in a contract file throughout the process.

### 2.38.3 Process:

Contract management includes monitoring and documenting performance. Depending on the company and goods or services procured, daily/regular monitoring of the contract may be primarily the responsibility of the equisitioner.[4]

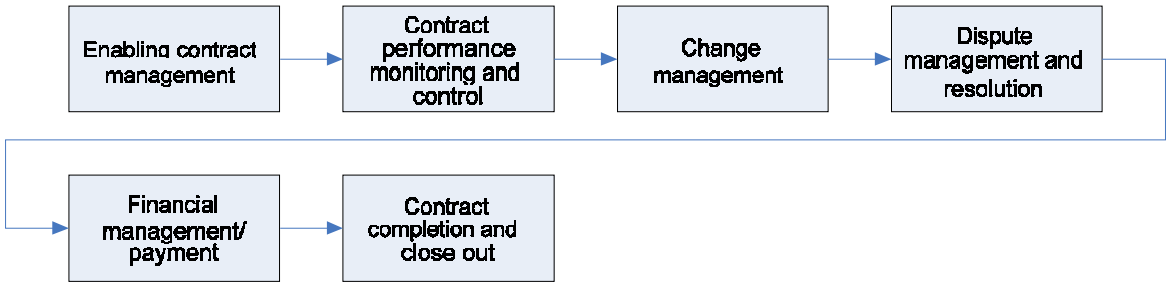



Figure2.8: The flowchart above shows each of the stages in the contract management process.

Ure

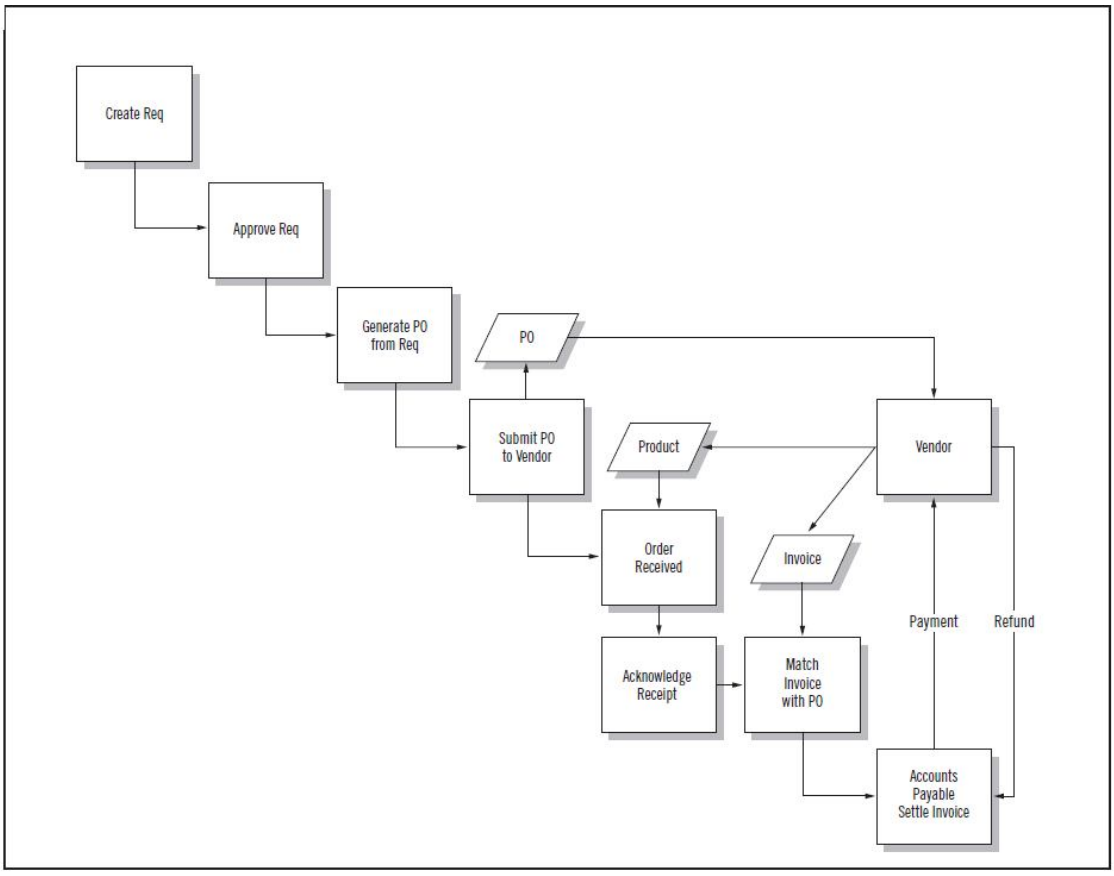



Figure 2.9: Procurement requisition Tracking Flow Chart.

# CHAPTER THREE

## 3. Concepts of Construction Procurement:-

### 3.1 What is Construction Procurement?

Major construction projects and programs are by their nature extremely multi-faceted, involving the mobilization of resources employing complicated technical solutions. Nevertheless, this complexity can be managed by breaking the whole, regardless of its size, into appropriate and manageable parts and solving each of them individually. No overarching approach can be applied to meet all the requirements of a complex client and its many stakeholders' contradictory objectives and conflicting interests. However, it is possible to propose a consistent method for analyzing each package of work and the capability and capacity of the many firms required to deliver these to meet the priorities setout for their particular part of the project. Procurement is about buying a supply chain, and not just an individual contract. (3)

The term encompasses the purchase of construction-related services and goods with the ultimate aim of:

a. The creation of a new building or structure, including all associated site works.
b. Alteration, refurbishment, maintenance, extension or demolition of an existing building or structure.

To obtain the best service and performance from the construction industry, the Client should be closely involved at each step in the process. Successful construction procurement should result in a project delivered on time, to cost and to the desired quality capable of performing the specific business function of that client. The procurement process involves a wide range of skills for which training and development may be required.(5)

## 3.2 The essential requirements of Construction Procurement:

In the case of construction projects, the quality aspect of Value for Money (VFM) relates both to the functionality and building quality of the finished building/structure, and to the quality of service provided by the various consultants and contractors engaged by the Client. The former may include several factors such as design aesthetics; appropriateness and sensitivity to surroundings; ease of maintenance; adaptation to suit future client requirements; and impact on the wider environment. The latter should take account of the particular abilities, skills and strengths of potential service providers, including their aptitude for providing innovative solutions and for working effectively alongside the Client and other team members.

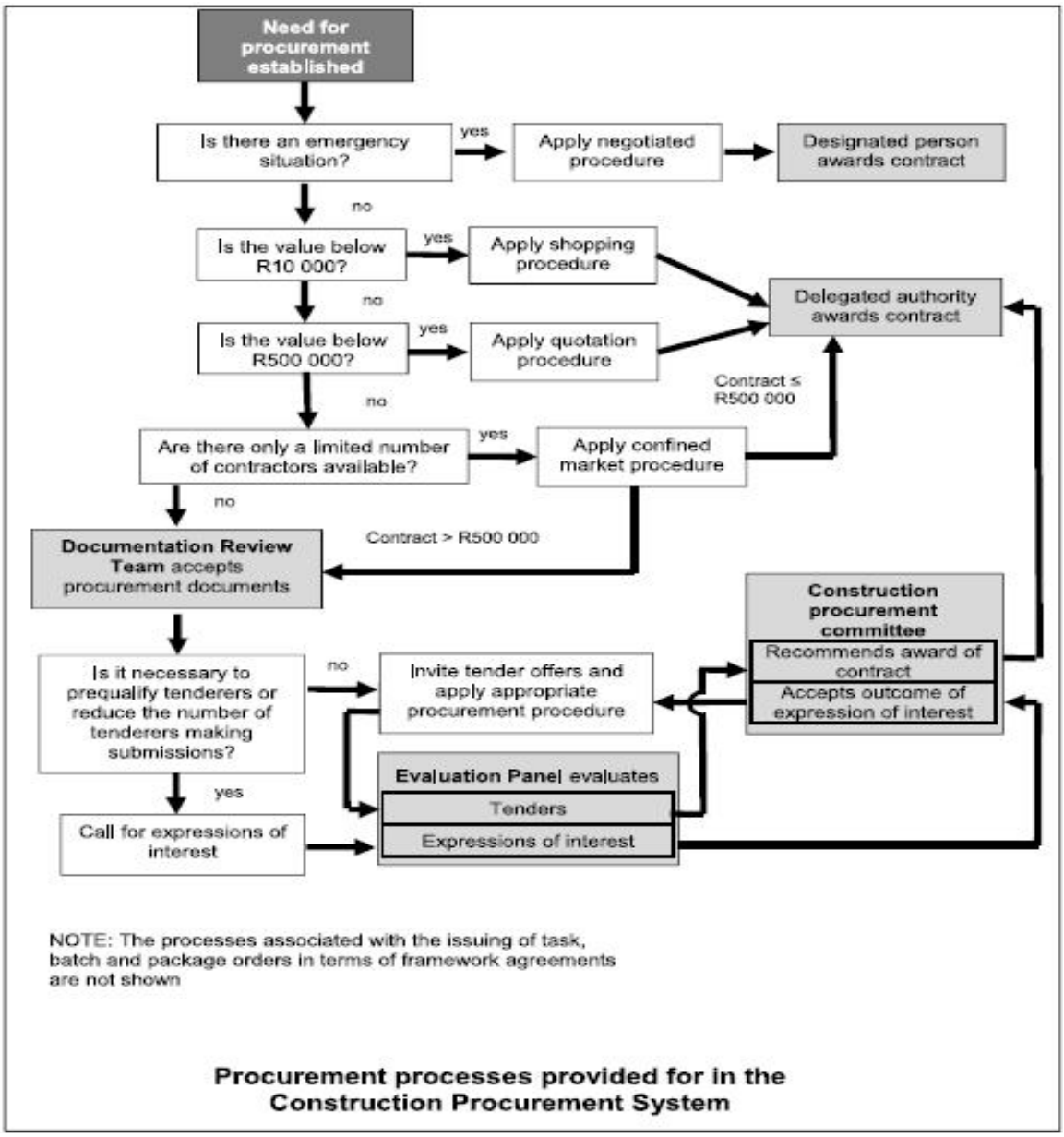



Figure 3.1: The Procuremet processin th Construction Procurement Process

## 3.3 How does Construction Procurement differ from Goods and Services Procurement:

Specification for the procurement of goods and services is developed

from the business case for example, the control document formally starting the procurement process. Construction procurement differs in that there can be no direct acquisition of a building (unless it is a small project). New buildings are seldom standard items and the refurbishment of existing buildings can never be standard. The act of creating a new - or extending or refurbishing an existing - building cannot be directly compared to the procurement of goods which can be requisitioned, are often 'off the shelf' and where an immediate choice can generally be made in terms of cost and quality.

The procurement of a building involves commissioning professional services and creating a specific solution. The process is complex, involving the interaction of the Client, design team, contractor(s) (who provide the construction expertise, labor, materials and plant resources), suppliers and various statutory/public interest bodies. Building procurement is often the subject of joint funding, with the different parties having varying degrees of interest in the outcome of the building process. An agreement should be entered into with the various funders.(3)

### 3.4 What, why and how to buy:

Procurement can be inefficient and burdensome for companies that are required to establish procedures that are transparent, auditable and compliant with legislation and the rules and regulations set by the requirements of the client.

Construction procurement for one-off projects is often bespoke and developed either in full or in part for each project. In contrast, the purchasing function of Procurement and Supply Chain is process-driven and designed to be efficient through standardization and repetition, much like a production line.

After deciding needs and requirements the starting point for any purchaser is what to buy. This is true for any shopper, from household shopping to procuring a large construction program. The actual buying processes may be very different and construction projects maybe very complicated, but the purchasing questions remain the same: what to buy, how best to buy it and where to buy it. Compiling a shopping list for a construction program requires far more strategic thinking than a weekly domestic shop.

Devising a suitable procurement strategy depends on a strict, logical order. This is illustrated in Figure 3.1, which illustrates the procurement cycle. The first step is to gain an understanding of what exactly needs to be bought.[3]

## 3.5 Packaging strategy:

The purpose of a packaging strategy is to plan and coordinate the construction delivery undertaken by different firms to meet the requirements of a program. The program sets out the priorities of what exactly is to be delivered, a timetable for each facility and the

infrastructure needed. The packaging strategy is developed by breaking down the requirements of the whole program into its constituent parts. This allows the overall delivery requirements to be simplified to facilitate the development of specific procurement plans for design, construction works and services.

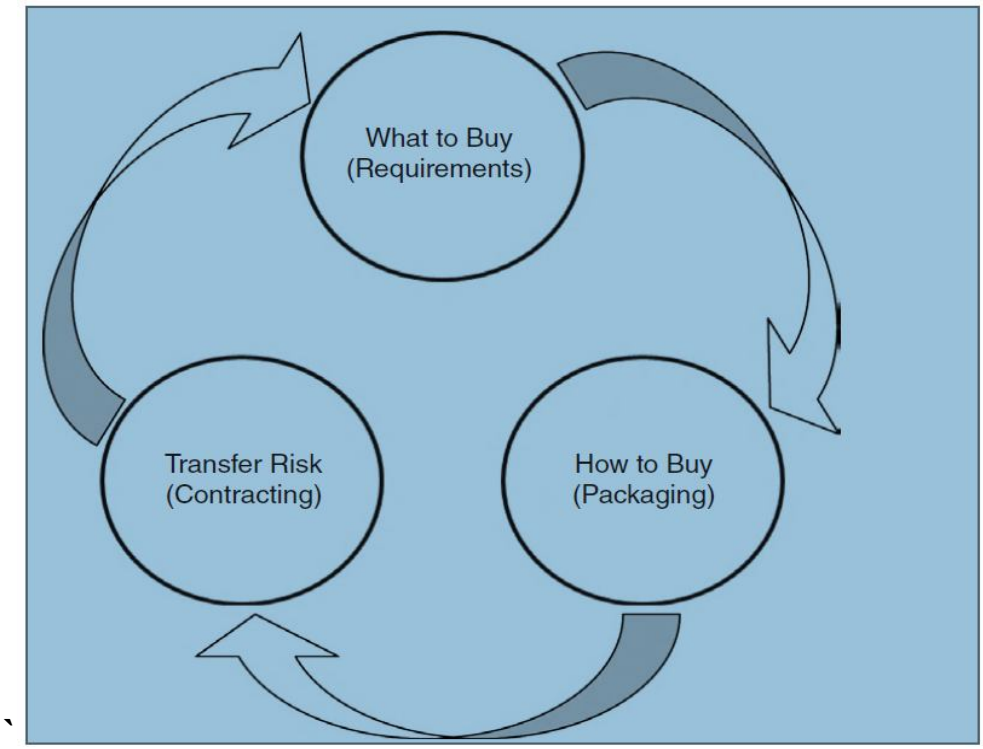



Figure 3.2: Cycle of Procurement of Construction Project.

## 3.6 How does Procurement Process work within construction Projects:

Using the work breakdown structure (WBS) and procurement strings described earlier, seven procurement milestones were identified. These were:

a. Procurement plan approved
b. Contract notice and pre-qualification questionnaire (PQQ)published.
c. Tender list authorized.
d. Invitation to Bid (ITB) issued
e. Tenders returned
f. Award recommendation, and
g. Contract awarded.

In order to gain and retain the confidence of stakeholders and the executive body, an early understanding of what is being procured and how the works are planned is essential. It is also important to maintain that confidence by accurately reporting the current progress of key procurement activities.

## 3.6 Common Forms of Contracts Used in Construction Field:

Selecting appropriate contract forms is the major component of a contracting strategy. The preferred options used were:

### 3.6.1 **Option A**: **Priced Contract with Activity Schedule**:

This type of contract is a priced contract with an activity schedule. Where possible the fixed-priceroute for assets that could be well defined and where cost and time risks could be identified and appropriately managed.

3.6.2 **Option B**: **Target Contract with Activity Schedule**: Is used to execute the majority of construction works contracts,

particularly those involving a two-stage tender process with partly defined requirements and where the design was not fully complete. One of the main advantages of using an option B target form of contract is that it provides the client and contractor with an actual cost mechanism that can be used to share risk and incentives performance.

3.6.3 **Option C**: **Cost Reimbursable Contract**: is a cost-reimbursable contract. This form of contract is used only there risk cannot be adequately determined or mitigated by the client.

3.6.4 **Option D**: **Management Contract**: Is a management contract and was used only in certain instances where packages of works were agreed as the works proceeded. There was also potential for its use where mixed types of structure were to be built in a temporary or permanent environment, where there was a requirement for the close management of interface with the local government authorities. (2)

3.6.5 **Option E**: **Service Contract**: Is used where there was a requirement to maintain completed assets through to the completion of the deconstruction period. Certain aspects of this form of contract were included within the main venues,

where the contractor retained an obligation to provide a facilities management service. The term 'service contract' allowed the use of key performance indicators to ensure service levels were delivered.

## 3.7 Factors Influencing the Procurement of Common Components:

A number of factors determine whether or not procuring common components at a strategic procurement level is helpful. These factors include market leverage, supply chain security, future maintenance, and operations and design efficiencies.

3.7.1 **Market leverage:** Market leverage is one of the benefits of manipulating the supply chain to increase profitability, a method of gearing up of sales and turnover by using the credit of suppliers.

3.7.2 **Advantages:**

a. Allows for bulk supply leading to economies of scale and the potential for discounts to be obtained.
b. Helps to secure the supply chain for the program, an especially important consideration when components are critical or their delivery is on the critical path.
c. Reduces the risk associated with late delivery by securing lead-in times.

3.8 **Supply chain security:**

A common component procurement strategy can help to anticipate potential problems in the supply of chain, such as extended supply lead times and competition from other purchasers. Early intervention to buy inputs or reserve supplier capacity can help to avoid unexpected cost increases and reduce the risk of delay. This can also lead to more accurate forecasting and planning.

**3.9 Future maintenance and operations:**

Common component strategies can also facilitate reductions in future maintenance costs and efficient operation, for a number of reasons. A standard approach to testing and commissioning particular components can be used on multiple projects, taking advantage of the learning curve applied repeatedly to the same product. Familiarity in the use of a component also helps in operations

**3.10 Design efficiencies:**

Commonality of design helps to ensure requirements are met across the program by introducing standards that comply with the client's objectives and the practical implications of statutory regulations. This controls the consistency of products through the use of a common specification. By repeating the same approach to design across the procurement process, also learnt lessons can be taken easily. [(2)]

### 3.10 The milestones of procurement reporting:

On a large construction program reporting activities are usually undertaken by a separate functional team called project controls. Project controls essentially gather and present data on time and cost and report on the progress of construction delivery. To enable the consistent reporting of procurement activity it is important to develop and agree a standard set of milestones. The milestones may include (in chronological order):

a. Publication of a contract notice.
b. Prequalification Questionnaire Request (PQQ) return
c. issue of the (PQQ) evaluation report
d. Tender list approval
e. Tender issue
f. Tender return, and
g. Contract award.

### 3.11 Standardizations and codification of the procurement process:

A procurement code ('The Code') was developed to prescribe how a construction project authority can purchase all works, services and goods. It was based on similar procedures and working instructions from within other safety-critical sectors, including the rail and petrochemical industries. In effect it was an instruction manual embodying best-practice procurement procedure and was based on a 13-step process, with each step having to be signed off before moving on to the next. The

steps were developed to ensure strict compliance with regulations and central government requirements:

1. Procedure 1: Establish the procurement route
2. Procedure 2: Set contract strategy and criteria
3. Procedure 3: Prepare contract notice
4. Procedure 4: Prepare pre-qualification questionnaire (PQQ) and invitation to bid (ITB)
5. Procedure 5: Issue contract notice and PQQ
6. Procedure 6: Receive and evaluate PQQ
7. Procedure 7: Agree tender list
8. Procedure 8: Notify suppliers
9. Procedure 9: Issue (ITB)
10. Procedure 10: Receive and evaluate tenders
11. Procedure 11: Prepare tender report
12. Procedure 12: Notify tenderers
13. Procedure 13: Award contract.

### 3.12 Procurement reporting:

Procurement Board meetings attended by both the Consultants and the Contractors were held on a monthly basis. They formed part of a wider program reporting cycle, which also included a Design and Planning Board of Administration from the Government. The format of the Program Board was similar to a Project and program review clinic, where each project reports on progress and issues

requiring resolution. The monthly reporting process was supplemented by a weekly high-level procurement update to capture achievements, issues and compliance with plans.(4)

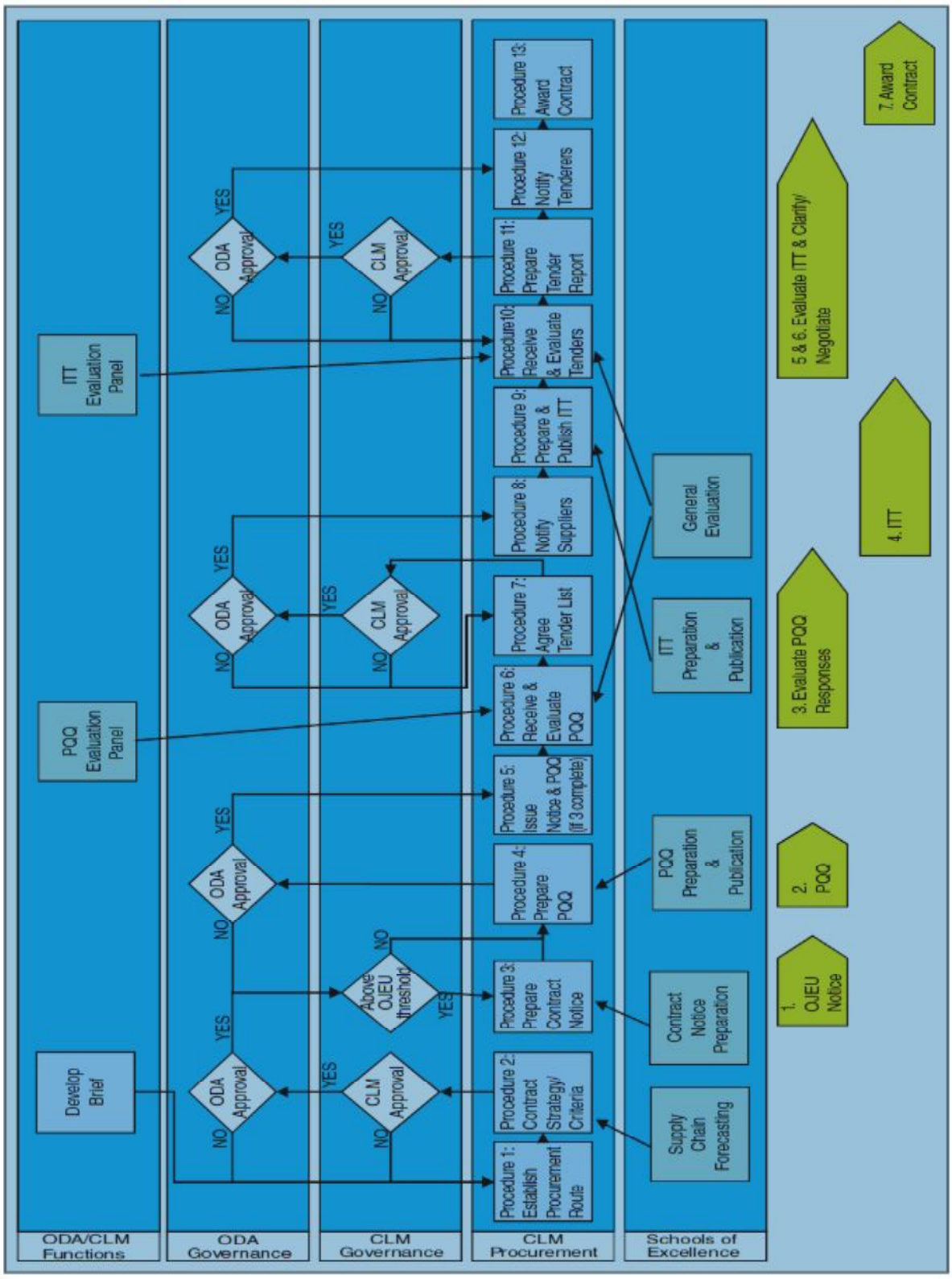



Figure 3.3: The 13-step Procurement Process.

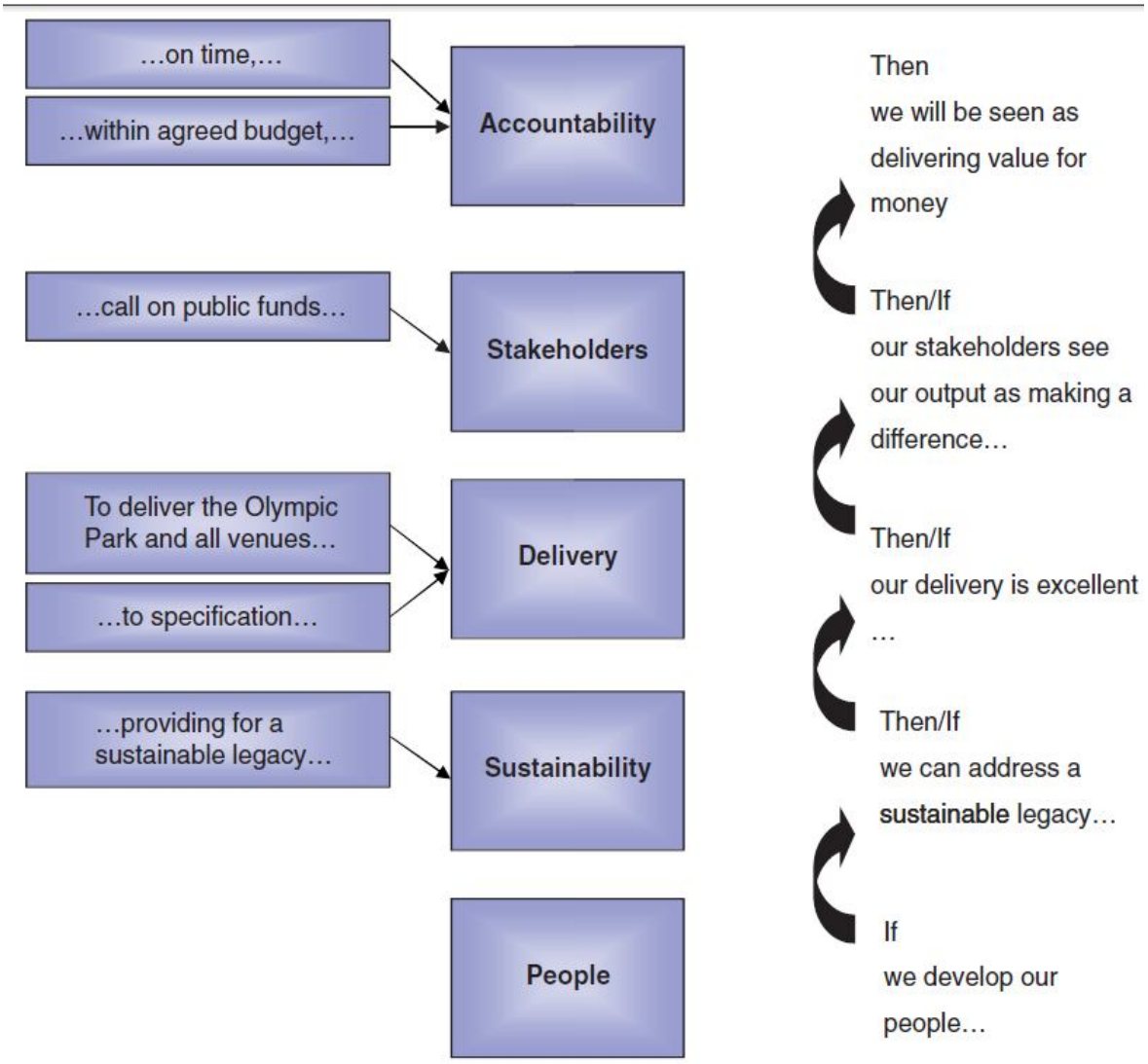



Figure 3.4: Chart explains how the best results and expectations can be produced from periodic reports

# CHAPTER FOUR

# 4. METHODOLOGY AND RESULT DISCUSSION

## 4.1 Research Methodology:

A questionnaire was then prepared to assess the impact of the procurement process on construction industry in Sudan, the questionnaire divided into 2 sections, namely: (a) Respondent's background; (b) Project performance information. Data collection is considered as the crucial stage in gathering all required information from the fundamental sources in achieving the main objectives of the study. The data and all the information is divided into 2 phases, the primary and secondary data. Quantitative research method has been designed to carry out this study. The research method had the aim of identifying the important factors influencing the procurement process in the construction industry.

## 4.2 Procedure of Data collection:

In response to the questions raised by the research, their features were reflected in the questionnaire in order to be answered by the population. As the questionnaire had been used to survey the construction industry it has been distributed to the derived sample in order to draw the ideas concerning the questions posted earlier. The questionnaire was

distributed to a sample derived from the research population. The method of sampling was conducted according to the statistical requirements.

The research population is considered to be the local contracting companies and consultant offices registered officially, the individual contractors, academic staff at universities and institutes and the administrative personnel in the construction field's authorities in Sudan.

## 4.3 Part One: Respondent Data Overview:

Fifty five (55) copies of the questionnaires were distributed and forty six (46) of them have responded which constitutes 83.6% of the total. The respondent's feedback comprised of engineers eighteen (39.1%), contractor four (8.7%), manager twelve (26.1%), financial eight (17.4%) and academic three (6.5%) as shown in the below tables. Twenty two (47.8%) of the respondents are working in contracting organization, fourteen (30.4%) of the respondents are working in project management firms, ten (21.7%) are working as procurement specialists in engineering firms. Thirty one (67.4%) of the respondents is working in private companies. Seventeen (37.0%) of the respondents have experience less than 10 years, fifteen (32.6%) respondents have 11 to 20 years, six (13.0%) respondents have twenty one to thirty years and respondents have four (8.7%) respondents have more than 30 years of experience.

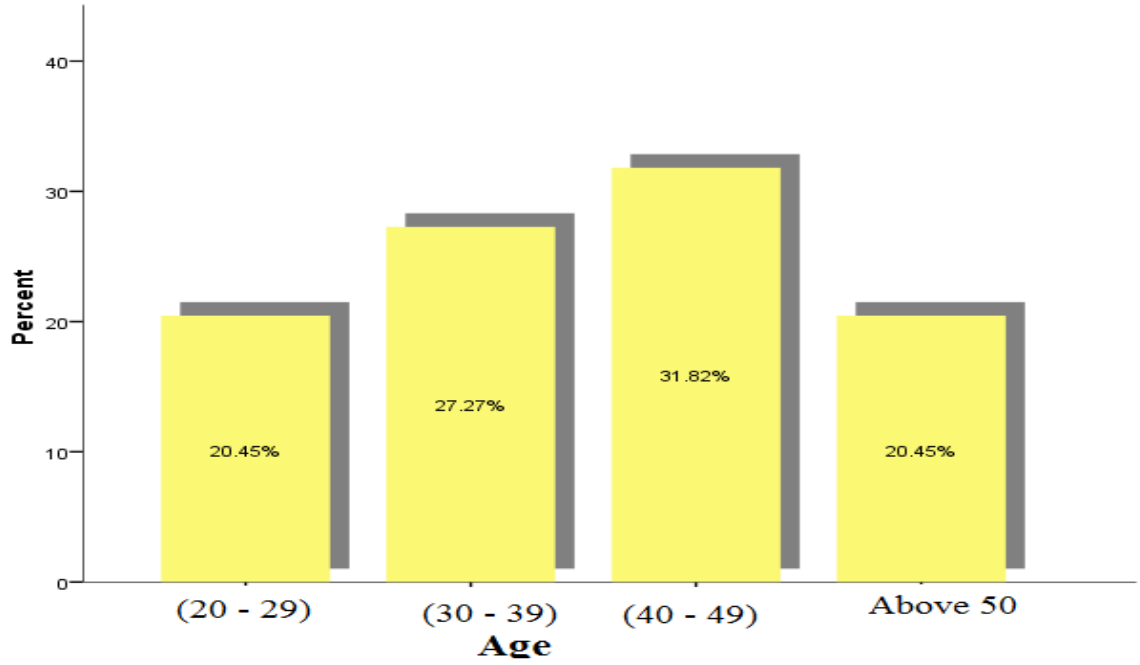
### 4.3.1 Statistics of Age:

| | Valid | Missing | Total |
|---|---|---|---|
| **Frequency** | 44 | 2 | 46 |
| **Percentage %** | 95.7% | 4.3% | 100% |

### 4.3.2 Analysis of Age:

The sample of research shows that the age of more than14 (30%) respondents are between 40 to 49 years which considered as the best period of youth and for a better performance.

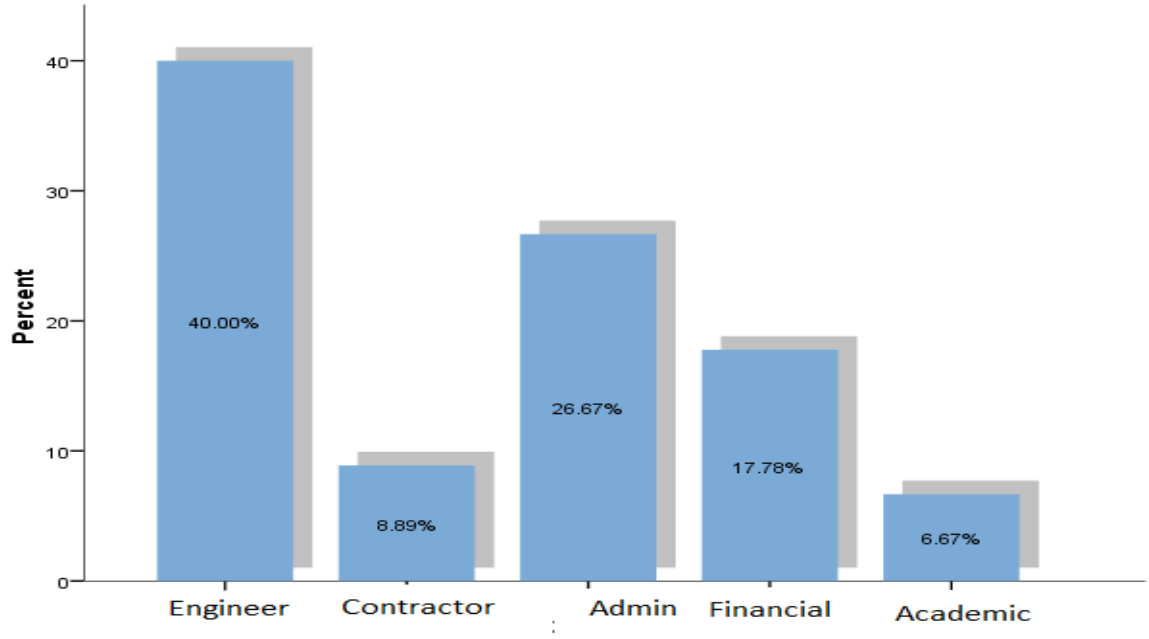
| Range (Years) | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| (20 – 29) | 9 | 19.6% | 20.5% | 20.5% |
| (30 – 39) | 12 | 26.1% | 27.3% | 47.7% |
| (40 – 49) | 14 | 30.4% | 31.8% | 79.5% |
| Above 50 | 9 | 19.6% | 20.5% | **100.0%** |
| **Total** | **44** | **95.7%** | **100.0%** | |
| System | 2 | 4.3% | | |
| **Total** | **46** | **100.0%** | | |




### 4.3.3 Respondents Job Overview:

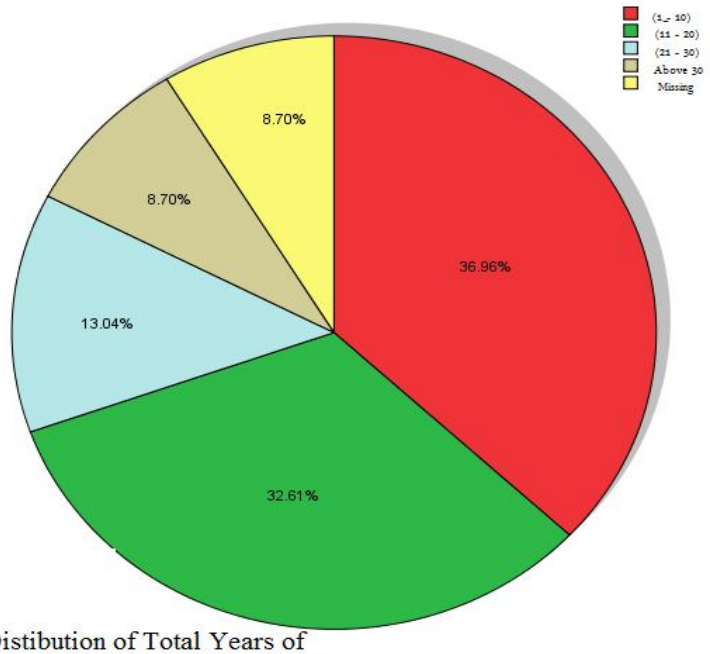
| Job Category | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Engineer | 18 | 39.1% | 40.0% | 40.0% |
| Contractor | 4 | 8.7% | 8.9% | 48.9% |
| Manager | 12 | 26.1% | 26.7% | 75.6% |
| Financial | 8 | 17.4% | 17.8% | 93.3% |
| Academic | 3 | 6.5% | 6.7% | 100.0% |
| **Total** | **45** | **97.8%** | **100.0%** | - |
| System | 1 | 2.2% | - | - |

| Job Category | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Engineer | 18 | 39.1% | 40.0% | 40.0% |
| Contractor | 4 | 8.7% | 8.9% | 48.9% |
| Manager | 12 | 26.1% | 26.7% | 75.6% |
| Financial | 8 | 17.4% | 17.8% | 93.3% |
| Academic | 3 | 6.5% | 6.7% | 100.0% |
| **Total** | **45** | **97.8%** | **100.0%** | - |
| System | 1 | 2.2% | - | - |
| **Total** | **46** | **100.0%** | | |



### 4.3.4 Total Years of Experience:

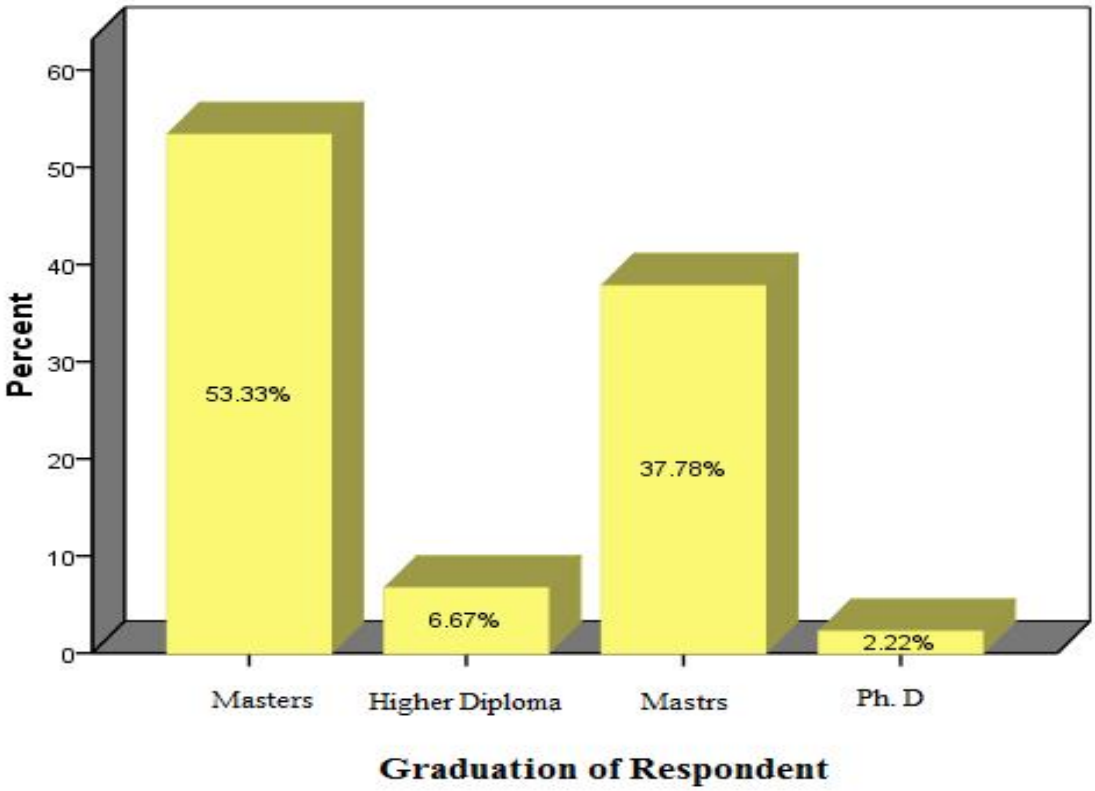
| Range | Frequency | Experience Percent | Valid Percent | Cumulative Percentage |
|---|---|---|---|---|
| (0 to 10) | 17 | 37.0% | 40.5% | 40.5% |
| (11 – 20) | 15 | 32.6% | 35.7% | 76.2% |
| (21 – 30) | 6 | 13.0% | 14.3% | 90.5% |
| More than 30 | 4 | 8.7% | 9.5% | 100.0% |
| **Total** | **42** | **91.3**% | **100.0**% | |
| System | 4 | 8.7% | | |
| **Total** | **46** | **100.0**% | | |




Distibution of Total Years of Experience of the Respondents

### 4.3.5 Academic Qualification of the Respondents:

| Category | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Bachelors | 24 | 52.2% | 53.3% | 53.3% |
| Higher Diploma | 3 | 6.5% | 6.7% | 60.0% |
| Masters | 17 | 37.0% | 37.8% | 97.8% |
| PhD | 1 | 2.2% | 2.2% | 100.0% |
| **Total** | **45** | **97.8%** | **100.0%** | |
| System | 1 | 2.2% | | |
| **Total** | **46** | **100.0%** | | |




### 4.3.6 Demography of the Characteristics of Respondents:

| *Demographic Assessment of Respondents* | *Percentage* |
|---|---|
| **(A) Type of position:** | |
| 1. Engineer | 18(39.1% |
| 2. Contractor | 4(8.7%) |
| 3. Project Manager | 12(26.1%) |
| 4. Financial | 8(17.4%) |
| 5. Academic | 3(6.5%) |

| | |
|---|---|
| **(B) Working area** | |
| 1. Contractor organization | 22(47.8%) |
| 2. Project management firm | 14(33.3%) |
| 3. Materials Trading firm | 10(21.7%) |
| **(C) Organization sector** | |
| 1. Government institution | 16(34.8%) |
| 2. Academic Institute | 3(6.5%) |
| 3. Private company | 27(68.7%) |
| **(D) Working experience** | |
| 1. 1 - 10 years | 17 (37.0%) |
| 2. 11 – 20 years | 15(32.6%) |
| 3. 21 – 30 years | 6(13.0%) |
| 4. Above 30 years | 4(8.7%) |

## 4.4 PART TWO:

In this part the information about the procurement process in the construction industrial in Sudan were obtained. Particularly, information about purchasing process, inventory management, nature of the local market, quality and price of the construction materials, application of international systems in the local system of contract and bidding process. The levels of the previous knowledge of procurement management within the universe of respondents' are significant to measure and

evaluate the performance of projects in Sudan. Table 3 below presents the results of the procurement process in the construction industry in Sudan:

SPSS Program was used to as analysis tools to evaluate the results and suggest the solutions and recommendations.

**Using LIKERT scale quartet:**

| Range | Weighted Mean Level |
|---|---|
| From 1.00 to 1.74 | Strongly agree |
| From 1.75 to 2.49 | Agree |
| From 2.50 to 3.24 | Disagree |
| From 3.25 to 4.00 | Strongly disagree |

| # | Question | N | | | Attitude |
|---|---|---|---|---|---|
| | | Valid | Missing | Mean | |
| 1 | Prices of construction materials in the local market are .subjected to significant changes and variations in prices | 46 | 0 | 1.48 | Strongly agree |
| 2 | Construction materials in the market are of high quality and always inadequate | 46 | 0 | 2.80 | Disagree |
| 3 | There is a clear conflict between material quality and prices offered by the suppliers. | 46 | 0 | 1.52 | Strongly agree |
| 4 | Many of the building materials are stored badly in a way that affects quality specifications. | 46 | 0 | 2.04 | Agree |
| 5 | Purchase of materials from the local market requires reasonable experience in the area of specifications and prices. | 46 | 0 | 1.46 | Strongly agree |
| 6 | Purchase of the construction materials from the local market often happens consensually and without legal contractual steps. | 45 | 1 | 1.84 | Agree |

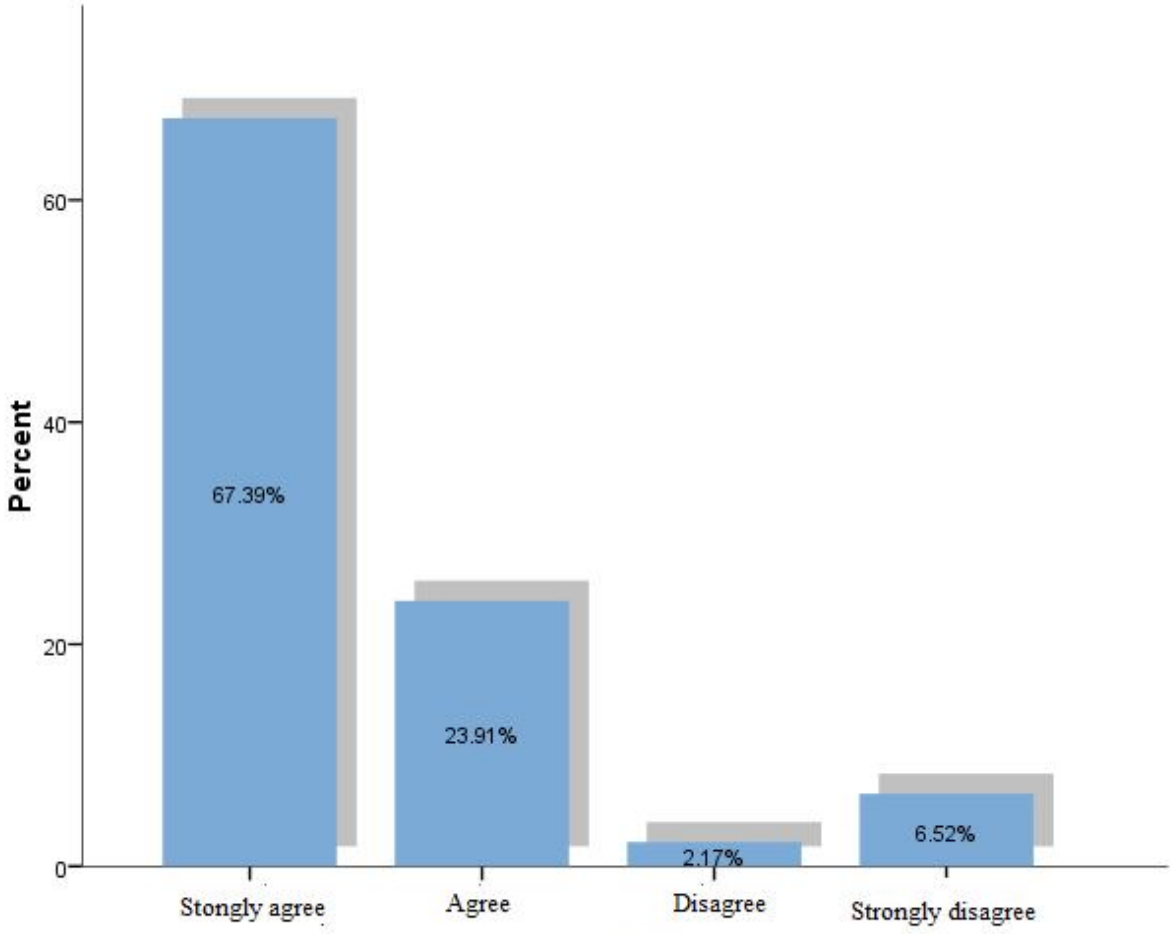
| | | | | | |
|---|---|---|---|---|---|
| 7 | Purchase from the market could have administrative and legal responsibilities | 46 | 0 | 1.74 | Strongly agree |
| 8 | Service request process whatsoever (hygiene - Contracting - Design - Safety and Security) is a kind of purchase | 45 | 1 | 1.80 | Agree |
| 9 | There is no local methodology adjusts the procurement process in the construction industry | 46 | 0 | 1.63 | Strongly agree |
| 10 | The organization that you are working at follows a specific way to select material suppliers and contractors for various projects. | 45 | 1 | 1.96 | Agree |
| 11 | Selection process of supplier or contractor is one of the difficult and delicate tasks that need certain information under fair and clear lines The organization that you are working at follows a specific way to select material .suppliers and contractors for various projects. | 46 | 0 | 1.72 | Strongly agree |
| 12 | The achievement of the objectives of the project is closely related to procurement and supply chain methods and relevance to the nature of the project | 46 | 0 | 1.50 | Strongly agree |

| | | | | | |
|---|---|---|---|---|---|
| 13 | The construction industry community in Sudan has high level of culture on the practice of projects purchasing and supply process | 46 | 0 | 2.61 | Disagree |
| 14 | Procurement and supply is known transaction and taught .within the curriculum for engineers. | 43 | 3 | 2.42 | Agree |
| 15 | Most of the materials that are purchased from the market .are not subject to laboratory tests to check the quality | 45 | 1 | 2.02 | Agree |
| 16 | Often there is no pricing, quantity surveying or specifications of the materials required for the subsequent phases in both of public and private sectors. | 46 | 0 | 2.02 | Agree |
| 17 | Input / output and saving the materials in storage systems are fully applied in your organization. | 46 | 0 | 2.39 | Agree |
| 18 | It is practical to apply the global systems of procurement and supply chain in Sudan and no need to adopt a local system recognizing the local environment of construction industry. | 45 | 1 | 2.91 | Disagree |

| | | | | | |
|---|---|---|---|---|---|
| 19 | Study the problems and obstacles facing the procurement and supply process that could lead to the creation of local methodology for the management and organization of procurement and supply process | 46 | 0 | 1.74 | Strongly agree |
| 20 | Methods used in the bidding process for the selection of a contractor or supplier shall be free from gaps and excesses | 46 | 0 | 2.50 | Disagree |
| 21 | Bidding process is conducted to choose the right contractor .for the project implementation | 46 | 0 | 1.98 | Disagree |
| 22 | The wrong choice of the contractor causes of project failure | 45 | 1 | 1.42 | Strongly agree |
| 23 | Local criteria that used to evaluate the offers from the contenders are considered accurate and true indicators | 46 | 0 | 2.52 | Disagree |
| 24 | The local laws and regulations that used to regulate the management of tender processes, but they need activation | 46 | 0 | 2.11 | Agree |
| 25 | There are many attempts from various parties to correct the path of the construction industry and adjust its products. | 46 | 0 | 2.37 | Agree |

1. Prices of construction materials in the local market are subjected to significant changes and variations in prices:

| Response | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Strongly agree | 31 | 67.4% | 67.4% | 67.4% |
| Agree | 11 | 23.9% | 23.9% | 91.3% |
| Disagree | 1 | 2.2% | 2.2% | 93.5% |
| Strongly disagree | 3 | 6.5% | 6.5% | 100.0% |
| **Total** | **46** | **100.0%** | **100.0%** | |

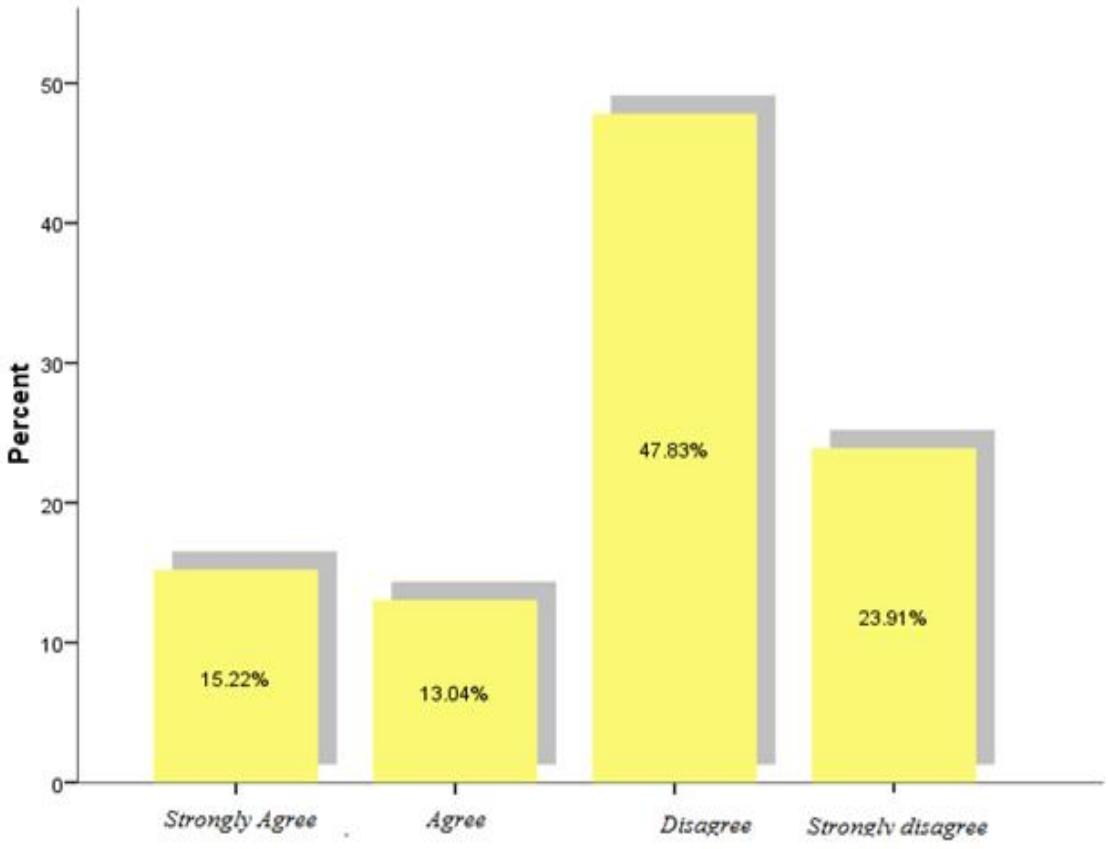



*Prices of construction materials in the local market are under significant changes and variations in prices*

2. Construction materials in the market are of high quality and

always inadequate.

| Response | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Strongly agree | 7 | 15.2 | 15.2 | 15.2 |
| Agree | 6 | 13.0 | 13.0 | 28.3 |
| Disagree | 22 | 47.8 | 47.8 | 76.1 |
| Strongly disagree | 11 | 23.9 | 23.9 | 100.0 |
| **Total** | **46** | **100.0** | **100.0** | |

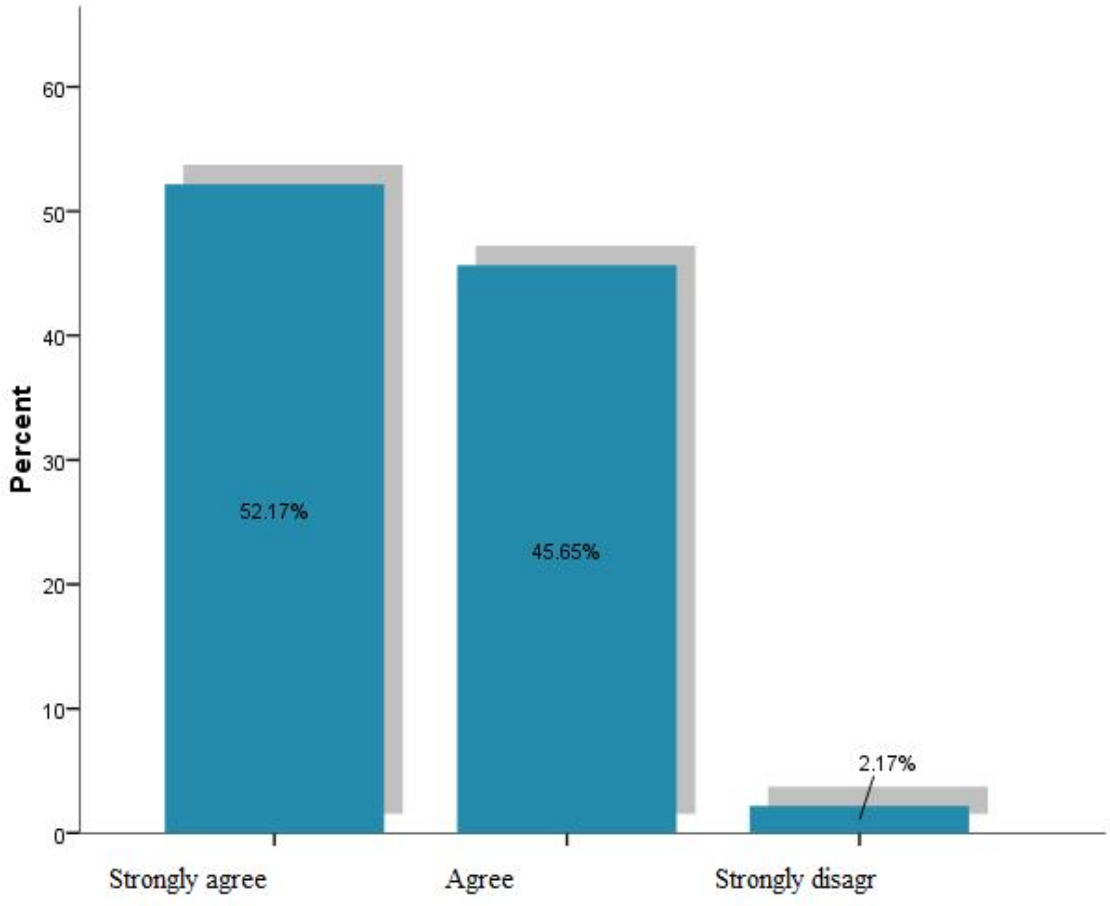



Construction materials in the market are of high quality and always inadequate.

3. There is a clear conflict between material quality and prices

offered by the suppliers.

| Response | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Strongly agree | 24 | 52.2 | 52.2 | 52.2 |
| Agree | 21 | 45.7 | 45.7 | 97.8 |
| Disagree | 1 | 2.2 | 2.2 | 100.0 |
| **Total** | **46** | **100.0** | **100.0** | |

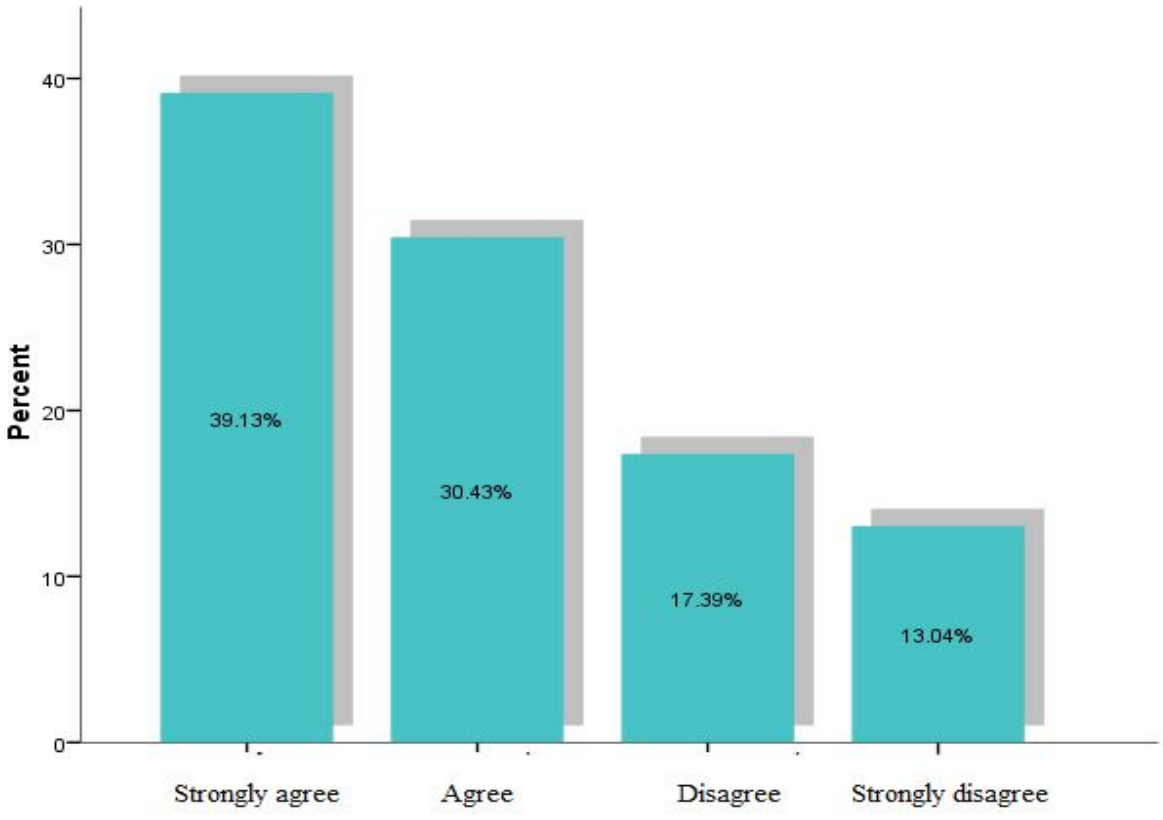



*There is a clear conflict between material quality and prices offered by the suppliers.*

4. Many of the building materials are stored badly in a way that

affects quality specifications.

| Response | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Strongly agree | 18 | 39.1 | 39.1 | 39.1 |
| Agree | 14 | 30.4 | 30.4 | 69.6 |
| Disagree | 8 | 17.4 | 17.4 | 87.0 |
| Strongly disagree | 6 | 13.0 | 13.0 | 100.0 |
| **Total** | **46** | **100.0** | **100.0** | |

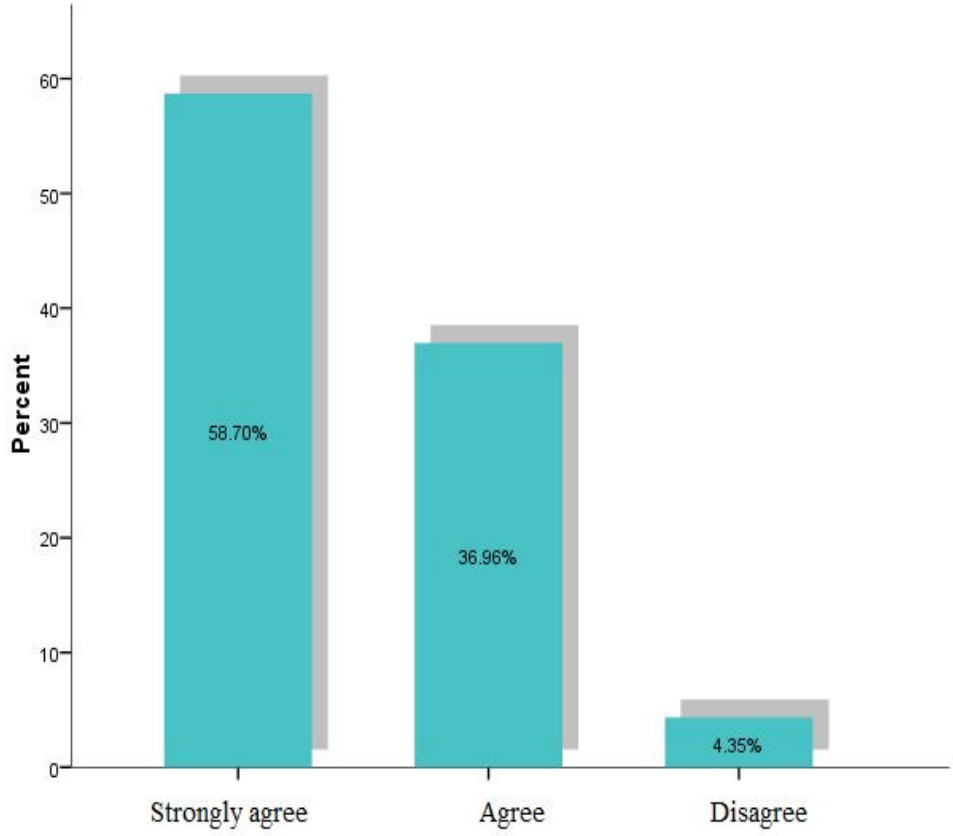



Many of the building materials are stored badly in a way affecting the quality specifications.

5. Purchase of materials from the local market requires

reasonable experience in the area of specifications and prices.

| Response | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Strongly agree | 27 | 58.7 | 58.7 | 58.7 |
| Agree | 17 | 37.0 | 37.0 | 95.7 |
| Disagree | 2 | 4.3 | 4.3 | 100.0 |
| **Total** | **46** | **100.0** | **100.0** | |



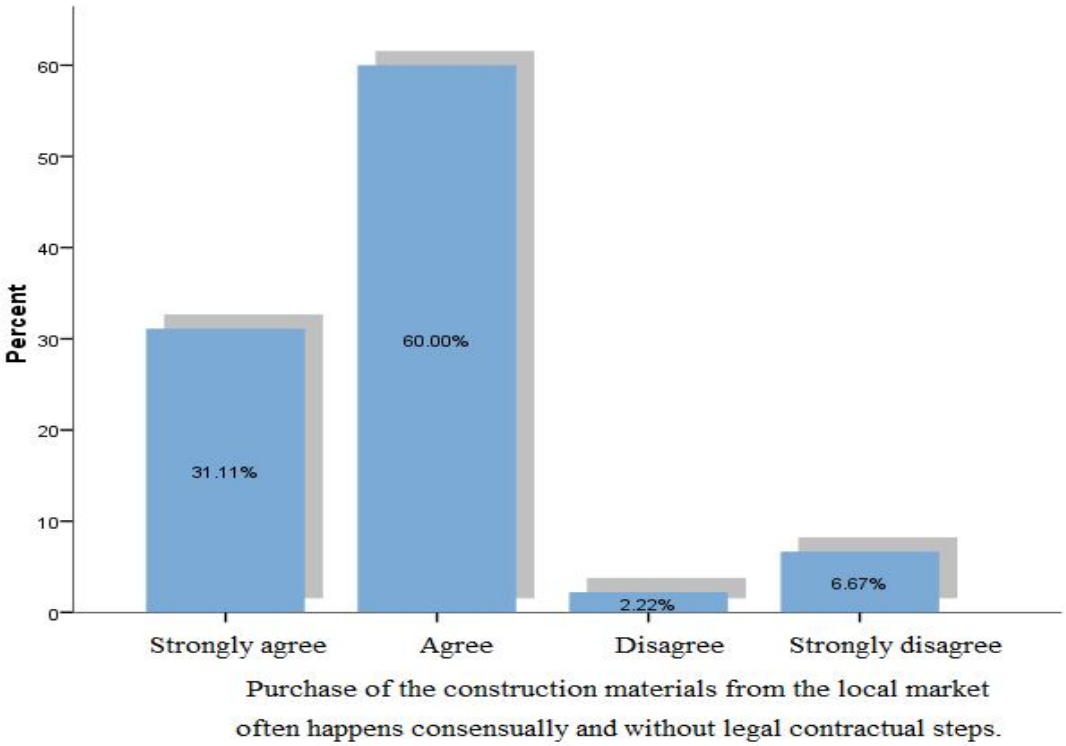

Purchase of materials from the local market requires reasonable experience in the area of specifications and prices.

6. Purchase of the construction materials from the local market

often happens consensually and without legal contractual steps. In all these presentations it might be useful to interpret the obtained results such as:

The result shows that 91.1 of the sample agree that legal relationship always govern the construction industry interactions which might yield of conflicts and disputes. So, contracts management should be applied for the entire process.

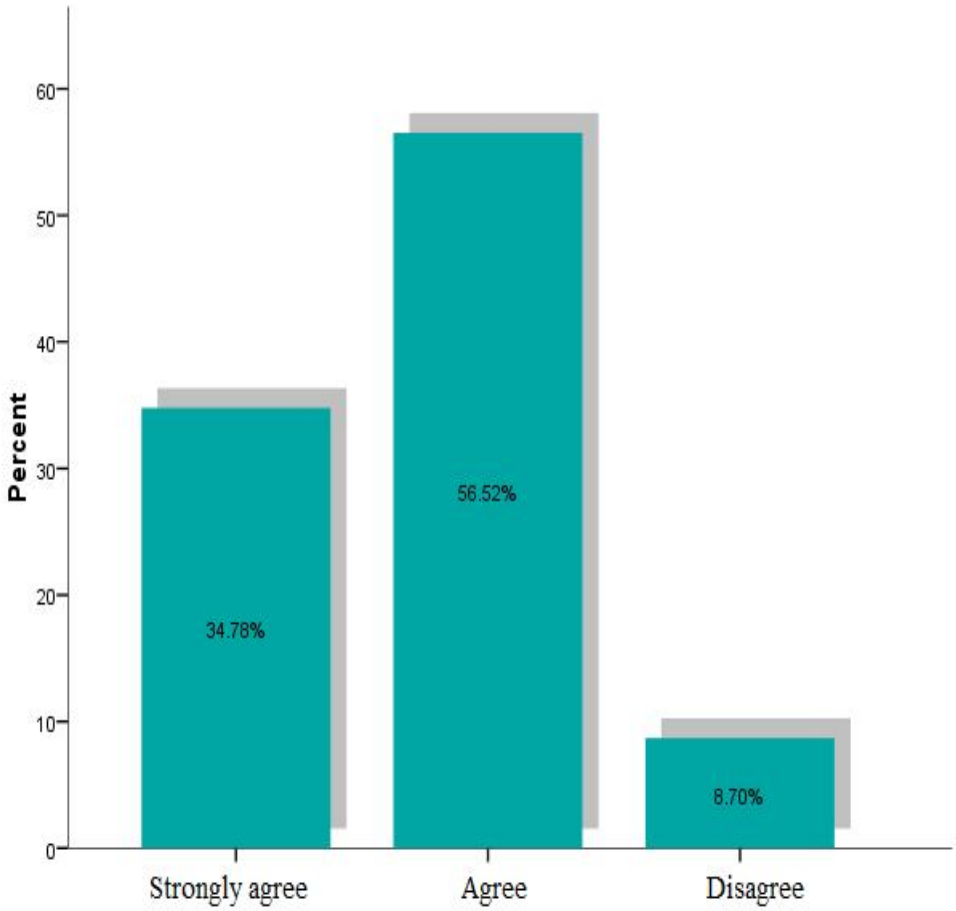
| Response | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Strongly agree | 14 | 30.4 | 31.1 | 31.1 |
| Agree | 27 | 58.7 | 60.0 | 91.1 |
| Disagree | 1 | 2.2 | 2.2 | 93.3 |
| Strongly disagree | 3 | 6.5 | 6.7 | 100.0 |
| **Total** | **45** | **97.8** | **100.0** | |
| System | 1 | 2.2 | | |
| **Total** | **46** | **100.0** | | |




7. Purchase from the market could have administrative and legal responsibilities.

   As 91.3% agree of this statement, the problem still exists where the application of contracts is not enforced throughout the sector. Most legislation may be a good way to put procedure on the right track.

| Response | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Strongly agree | 16 | 34.8 | 34.8 | 34.8 |
| Agree | 26 | 56.5 | 56.5 | 91.3 |
| Disagree | 4 | 8.7 | 8.7 | 100.0 |
| **Total** | **46** | **100.0** | **100.0** | |

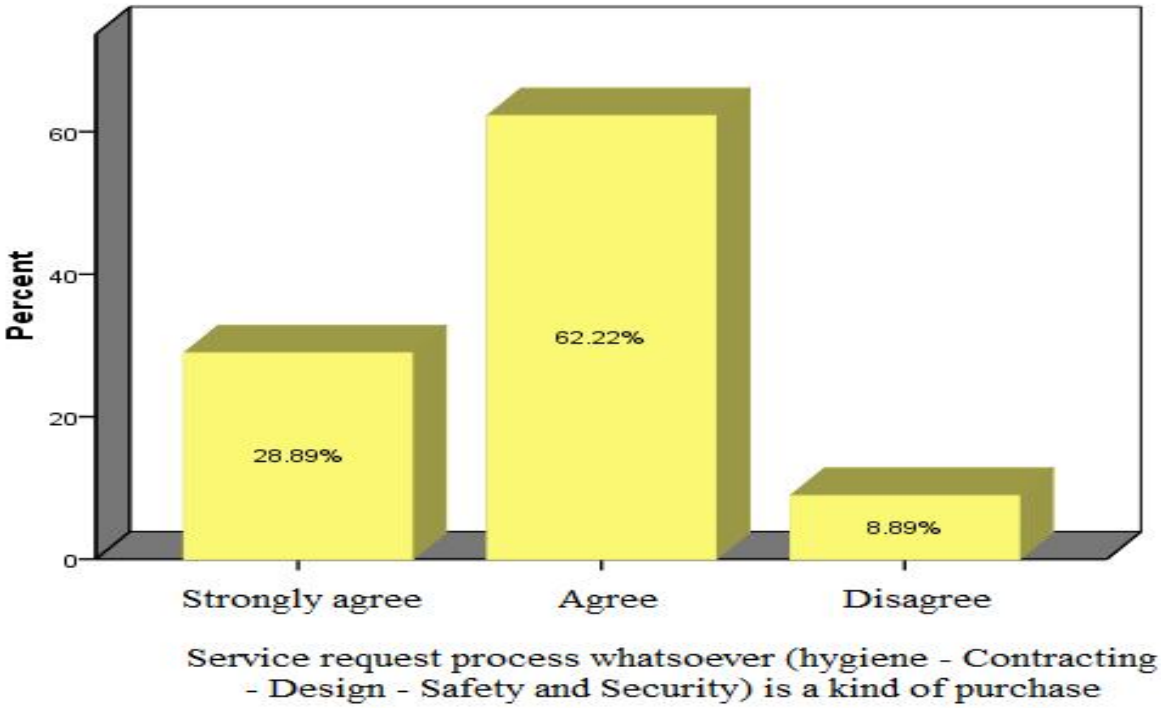



Purchase from the market could have administrative and legal responsibilities.

8. Service request process whatsoever (hygiene - Contracting - Design - Safety and Security) is a kind of purchase. It is considered to be a good culture as services became part of the procurement process as 91.1% of the audience believed on that.

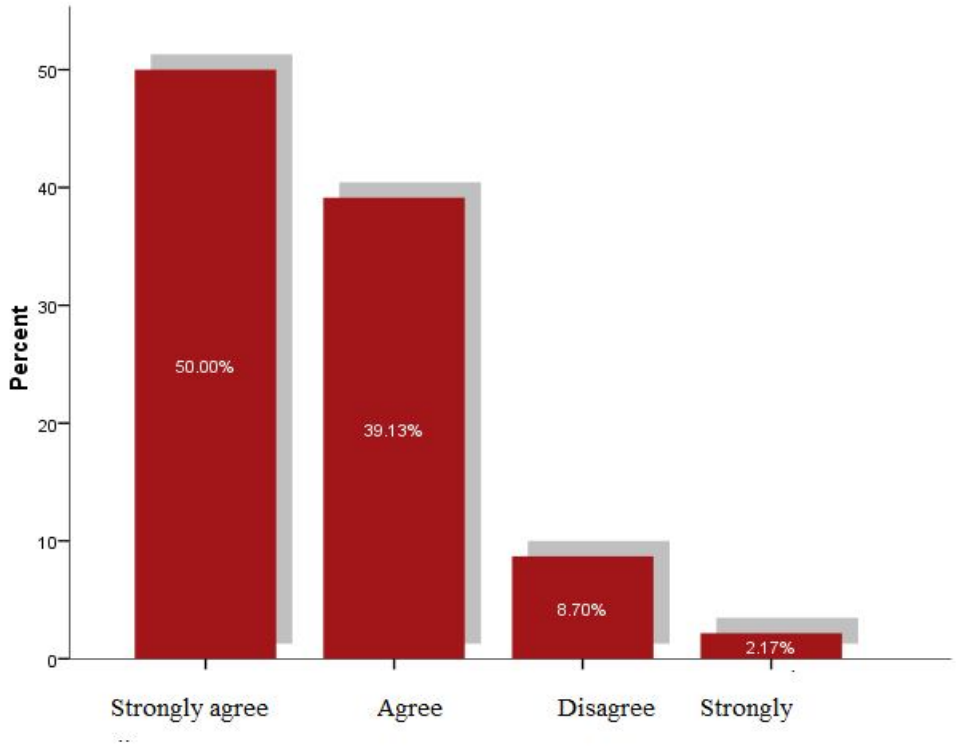
| Response | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Strongly agree | 13 | 28.3 | 28.9 | 28.9 |
| Agree | 28 | 60.9 | 62.2 | 91.1 |

| | | | | |
|---|---|---|---|---|
| Disagree | 4 | 8.7 | 8.9 | 100.0 |
| **Total** | **45** | **97.8** | **100.0** | |
| System | 1 | 2.2 | | |
| **Total** | **46** | **100.0** | | |




9. There is no local methodology to adjust the procurement process in the construction industry. The existing fact supported by 89.1% of the sample is that there is a local methodology to be followed when conducting the procurement process. The situation needs strong decisions towards establishing such methods to determinate drawback and to avoid legal pitfalls.

| Response | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|
| Strongly agree | 50.0 | 50.0 | 50.0 |
| Agree | 39.1 | 39.1 | 89.1 |
| Disagree | 8.7 | 8.7 | 97.8 |
| Strongly disagree | 2.2 | 2.2 | 100.0 |
| **Total** | **100.0** | **100.0** | |



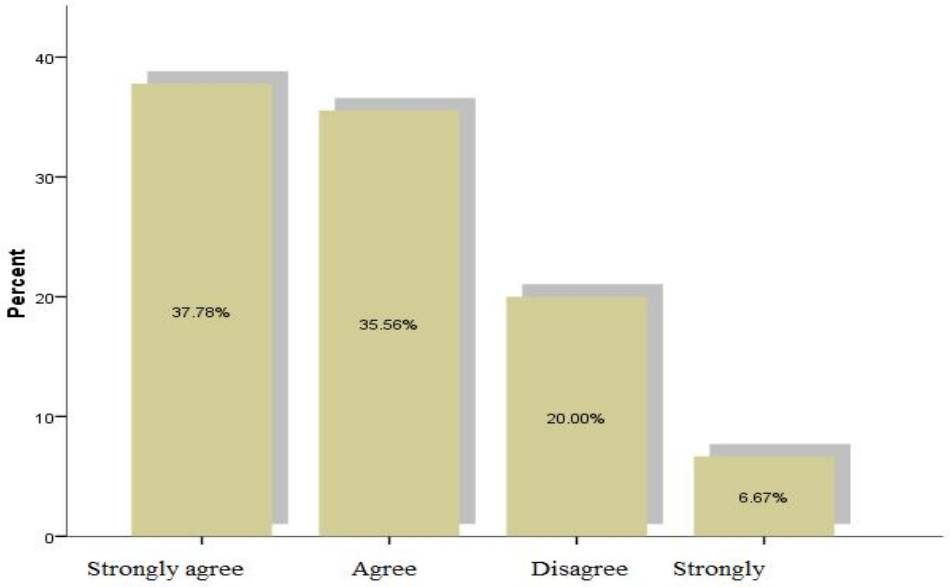

There is no local methodology adjusts the procurement process in the construction industry

10. The organization that you are working at follows a specific way to select material suppliers and contractors for various projects.

74.34% of the respondents declared that there is no specific way of selection of the materials suppliers. That means there is

no enough care of sourcing of suppliers of the construction materials. This reflects the situation of the local market as an unstable market with unpredictable changes and variations. Database of suppliers and contractors is either uncertain or instantaneous or needs to be updated from time to time.

| Response | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Strongly agree | 17 | 37.0 | 37.8 | 37.8 |
| Agree | 16 | 34.8 | 35.6 | 73.3 |
| Disagree | 9 | 19.6 | 20.0 | 93.3 |
| Strongly disagree | 3 | 6.5 | 6.7 | 100.0 |
| **Total** | **45** | **97.8** | **100.0** | |
| System | 1 | 2.2 | | |
| **Total** | **46** | **100.0** | | |

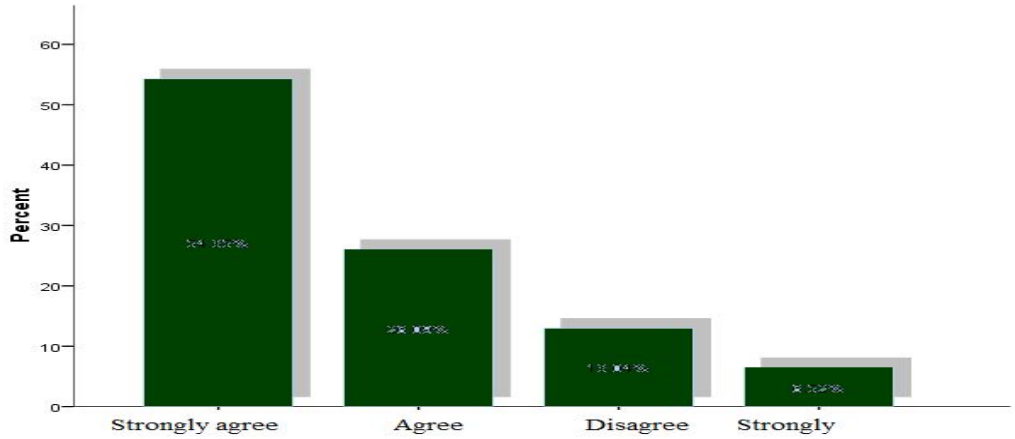



The organization that you are working at follows a specific way to select material suppliers and contractors for various projects.

11. Selection process of supplier or contractor is one of the difficult and delicate tasks that need certain information under fair and clear lines.

The result of this study reflected that more than 80.4% of the audients have strongly stated that it is really difficult and dedicated task, because of many internal and external obstacles and blocker. The high levels of risks among the construction industry in Sudan which are difficult to treat or mitigate are also influence negatively.

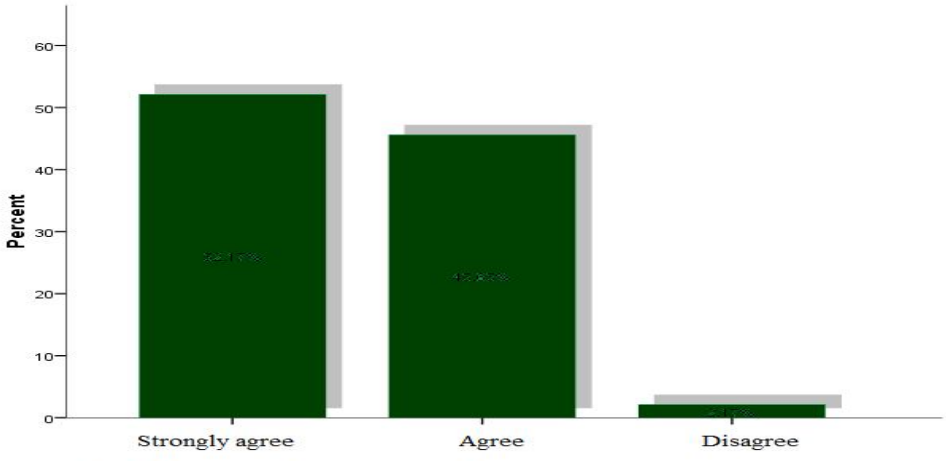
| Response | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Strongly agree | 25 | 54.3 | 54.3 | 54.3 |
| Agree | 12 | 26.1 | 26.1 | 80.4 |
| Disagree | 6 | 13.0 | 13.0 | 93.5 |
| Strongly disagree | 3 | 6.5 | 6.5 | 100.0 |
| **Total** | **46** | **100.0** | **100.0** | |




Selection process of supplier or contractor is one of the difficult and delicate tasks

12. The achievement of the objectives of the project is closely related to procurement and supply chain methods. For the respondents, this statements looks as a fact because about 98.9% of them agreed with it. It is very good that people are aware of the importance of the procurement process in the construction industry and the future is expected to come up with more improvement accordingly.

| Response | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Strongly agree | 24 | 52.2 | 2.2 | 52.2 |
| Agree | 21 | 45.7 | 45.7 | 97.8 |
| Disagree | 1 | 2.2 | 2.2 | 100.0 |
| **Total** | **46** | **100.0** | **100.0** | |

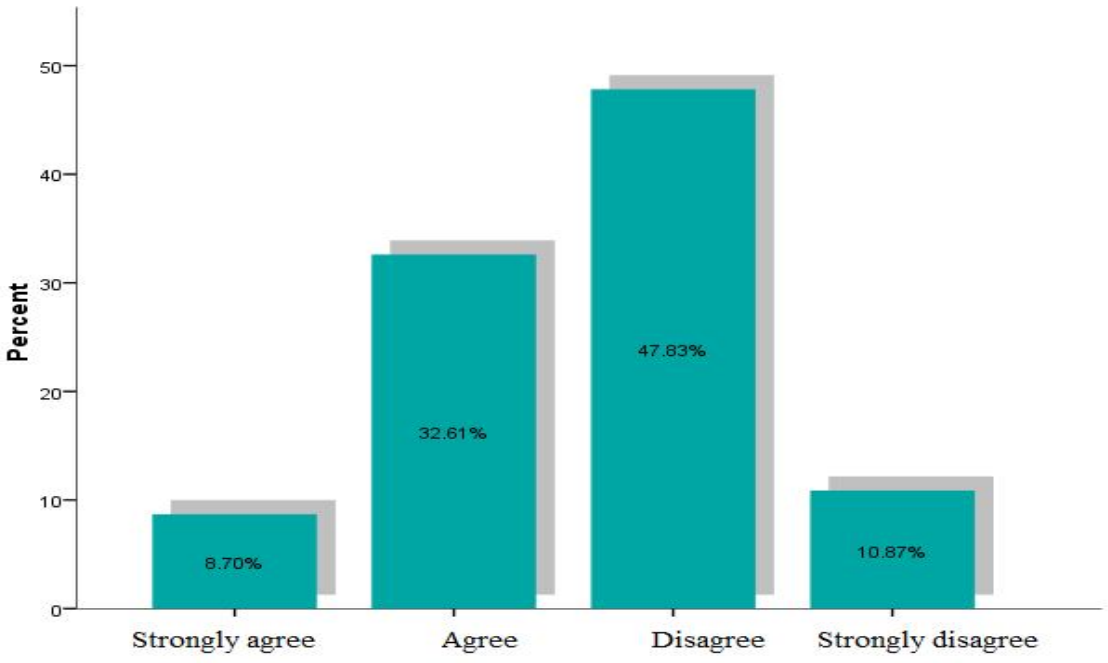


The achievement of the objectives of the project is closely related to procurement and supply chain methods.

13. The construction industry community in Sudan has high level of culture on the practice of projects purchasing and supply process.

The result reflected the culture of practice of purchasing and supply process is still not available or adopted. 32.6% of the respondent agrees and 47.8% are disagreed. Concern authorities are really requested to pay more efforts to establish at least a good level of knowledge of that activates.

| Response | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Strongly agree | 4 | 8.7 | 8.7 | 8.7 |
| Agree | 15 | 32.6 | 32.6 | 41.3 |
| Disagree | 22 | 47.8 | 47.8 | 89.1 |
| Strongly disagree | 5 | 10.9 | 10.9 | 100.0 |
| **Total** | **46** | **100.0** | **100.0** | |

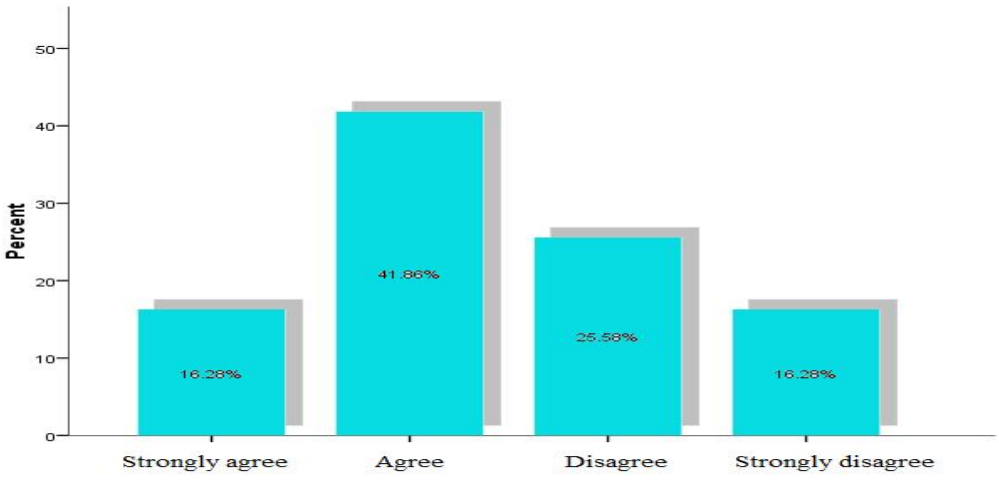



The construction industry community in Sudan has high level of culture on the practice of projects purchasing and supply process

14. Procurement and supply is known transaction and taught within the curriculum for engineers.

This question somehow looks like question (No.13) and the answers are rather same. This empowers the accuracy of the results about the area of the culture and knowledge.

| Response | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Strongly agree | 7 | 15.2 | 16.3 | 16.3 |
| Agree | 18 | 39.1 | 41.9 | 58.1 |
| Disagree | 11 | 23.9 | 25.6 | 83.7 |
| Strongly disagree | 7 | 15.2 | 16.3 | 100.0 |
| **Total** | **43** | **93.5** | **100.0** | |
| System | 3 | 6.5 | | |
| **Total** | **46** | **100.0** | | |

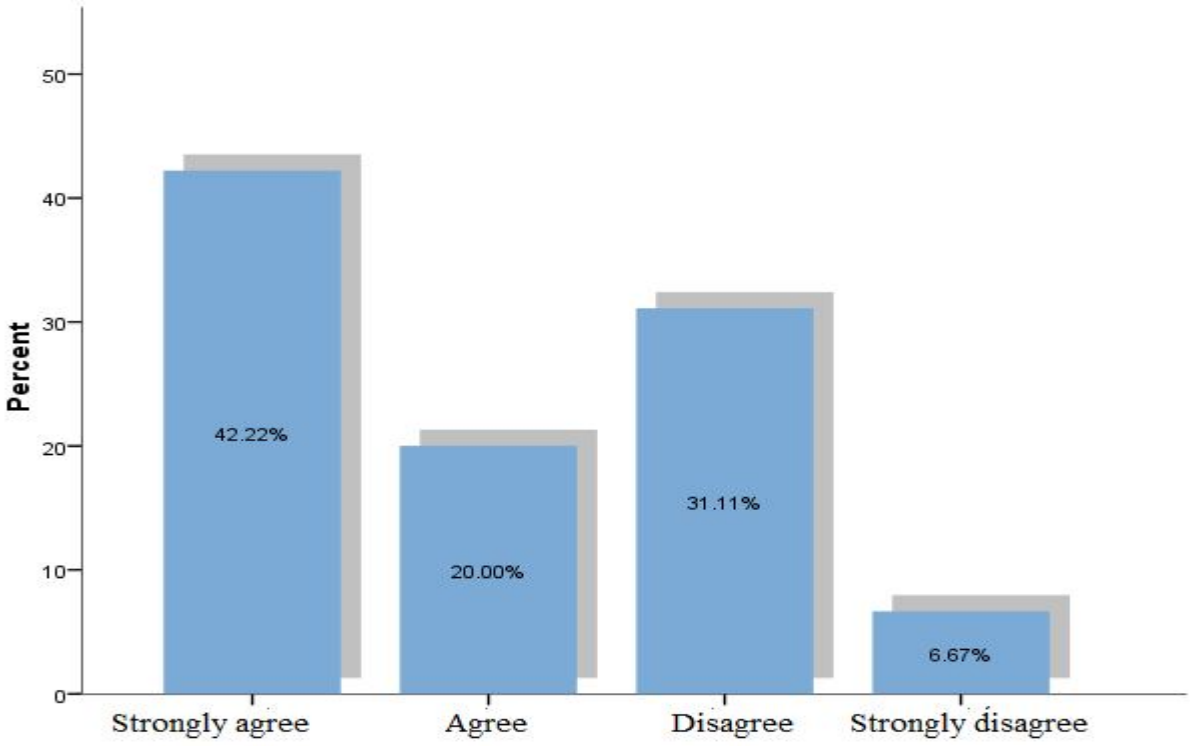



Procurement and supply is known transaction and taught within the curriculum for engineers.

15. Most of the materials that are purchased from the market are not subject to laboratory tests to check the quality.

60.9% represent those who agree with this statement. This result is translated as a result of absence of the concern government authorities. There is no care for the responsibility thrown on shoulders of the local government.

| Response | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Strongly agree | 19 | 41.3 | 42.2 | 42.2 |
| Agree | 9 | 19.6 | 20.0 | 62.2 |
| Disagree | 14 | 30.4 | 31.1 | 93.3 |
| Strongly disagree | 3 | 6.5 | 6.7 | 100.0 |
| **Total** | **45** | **97.8** | **100.0** | |
| System | 1 | 2.2 | | |
| **Total** | **46** | **100.0** | | |

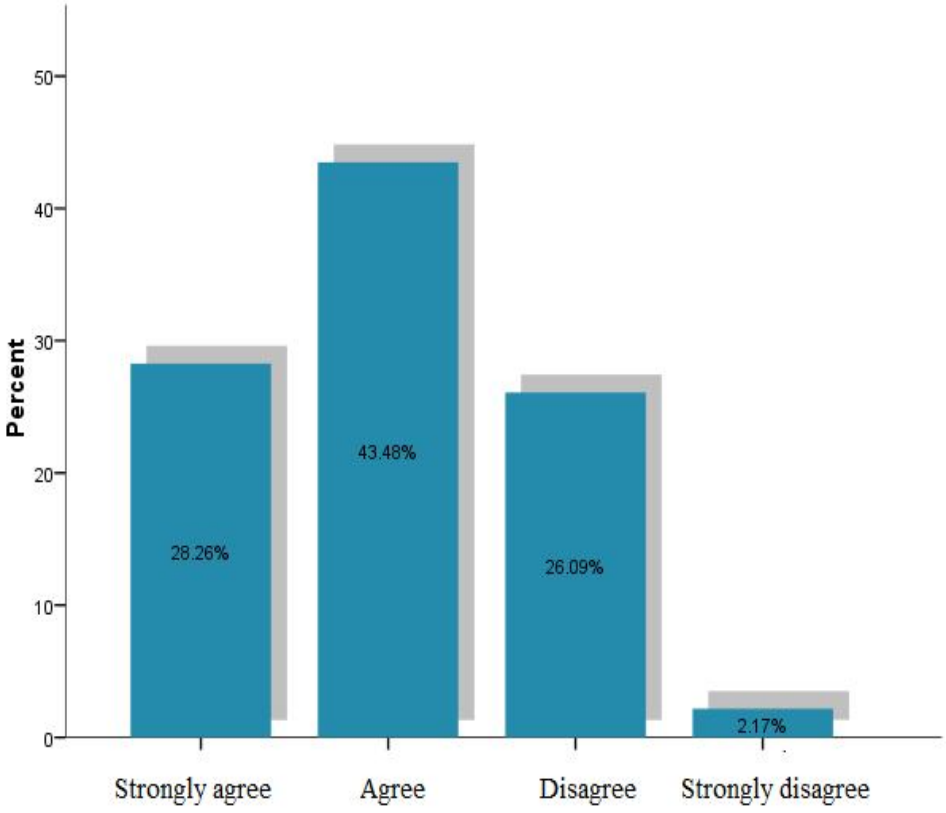



Most of the materials that are purchased from the market are not subject to laboratory tests to check the quality

16. Often there is no pricing, quantity surveying or specifications of the materials.

There is a strong relationship between this question and questions (10) and (11). 71.8% agree that there is a lack of using of some major techniques of quality management. It represents the far distance for the construction industry in Sudan to perform in line with the present global standards of procurement, cost estimation and quality assurance and control.

| Response | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Strongly agree | 13 | 28.3 | 28.3 | 28.3 |
| Agree | 20 | 43.5 | 43.5 | 71.7 |
| Disagree | 12 | 26.1 | 26.1 | 97.8 |
| Strongly disagree | 1 | 2.2 | 2.2 | 100.0 |
| **Total** | **46** | **100.0** | **100.0** | |



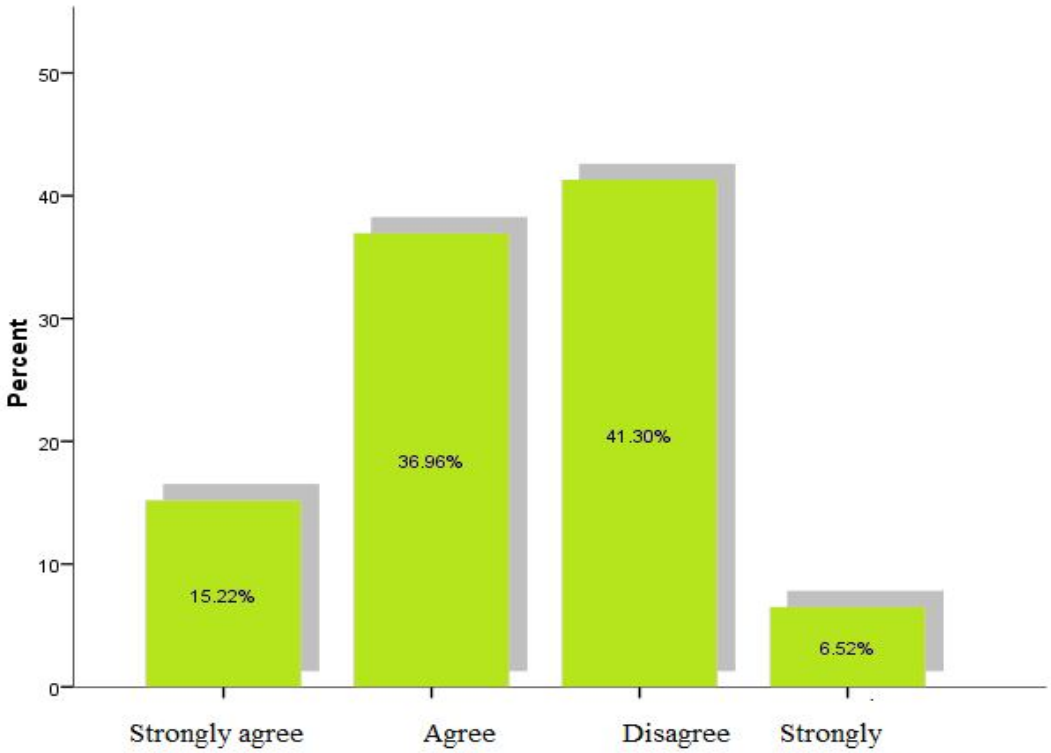

Often there is no pricing, quantity surveying or specifications of the materials.

17. Input / output and saving the materials in storage systems are fully applied in your organization.

In this statement 52.2% of the respondents agree and 47.8% disagree. It is almost half/half. This is unclear result and

cannot interpret the situation of the construction materials at the inventory of the user.

| Response | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Strongly agree | 7 | 15.2 | 15.2 | 15.2 |
| Agree | 17 | 37.0 | 37.0 | 52.2 |
| Disagree | 19 | 41.3 | 41.3 | 93.5 |
| Strongly disagree | 3 | 6.5 | 6.5 | 100.0 |
| **Total** | **46** | **100.0** | **100.0** | |



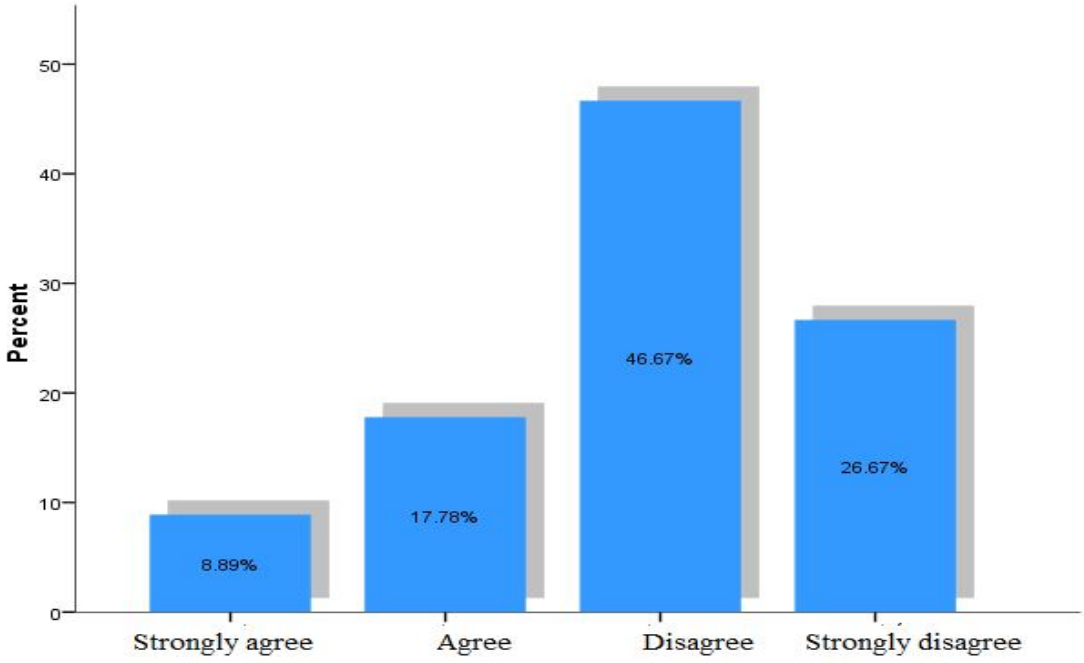

Input / output and saving the materials in storage systems are fully applied in your organization.

18. It is practical to apply the global systems of procurement

and supply chain in Sudan and no need to adopt a local system recognizing the local environment of construction industry.

73.34% of the audients disagree and they trust the existing local systems of procurement and supply in Sudan.

| Response | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Strongly agree | 4 | 8.7 | 8.9 | 8.9 |
| Agree | 8 | 17.4 | 17.8 | 26.7 |
| Disagree | 21 | 45.7 | 46.7 | 73.3 |
| Strongly disagree | 12 | 26.1 | 26.7 | 100.0 |
| **Total** | **45** | **97.8** | **100.0** | |
| System | 1 | 2.2 | | |
| **Total** | **46** | **100.0** | | |



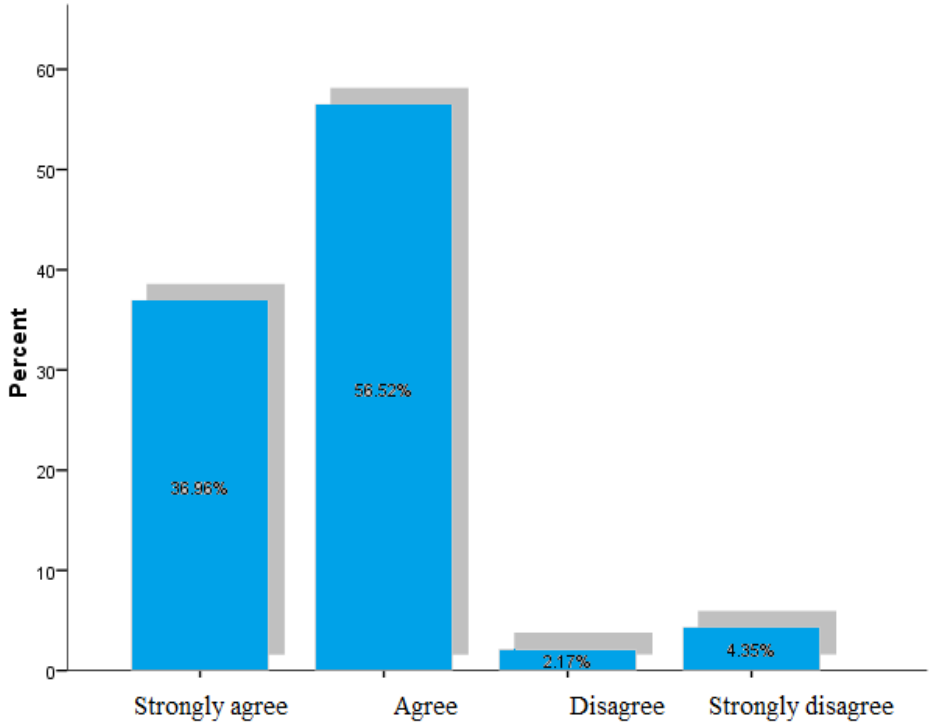

It is practical to apply the global systems of procurement and supply chain in Sudan

19. Study the problems and obstacles facing the procurement and supply process that could lead to the creation of local methodologies to improvement of work.

It is resulted that 93.5% agree, that means there is high consideration for the learned lessons techniques and it is used to be applied in the procurement process of the construction projects in Sudan.

| Response | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Strongly agree | 17 | 37.0 | 37.0 | 37.0 |
| Agree | 26 | 56.5 | 56.5 | 93.5 |
| Disagree | 1 | 2.2 | 2.2 | 95.7 |

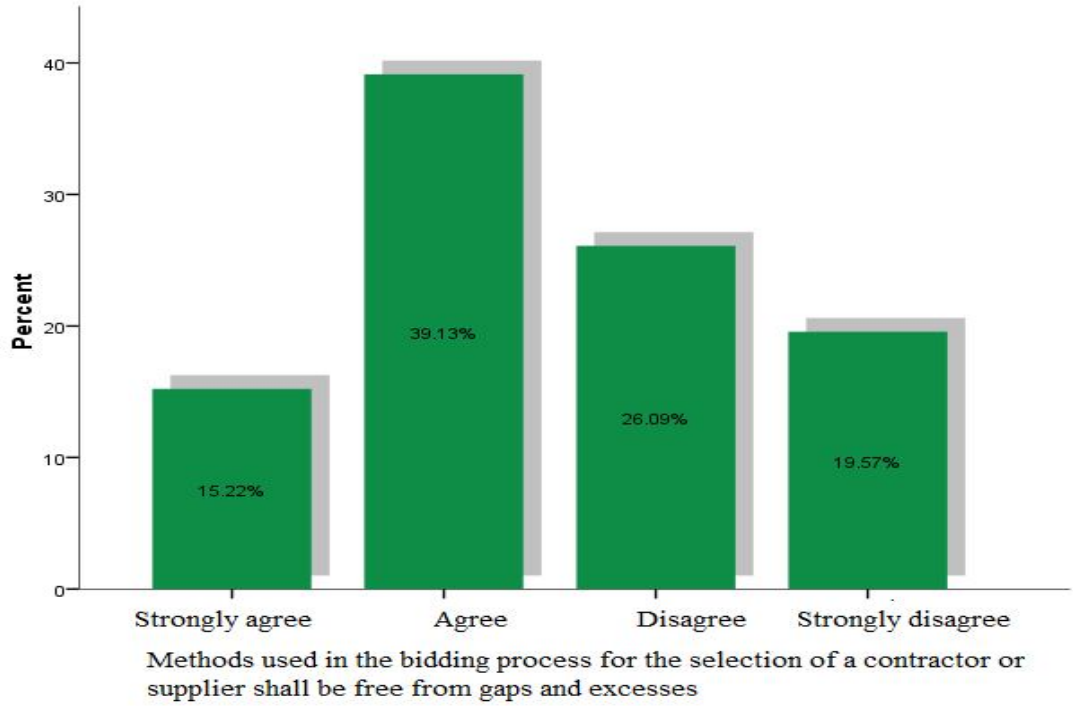
| | | | | |
|---|---|---|---|---|
| Strongly disagree | 2 | 4.3 | 4.3 | 100.0 |
| **Total** | **46** | **100.0** | **100.0** | |




Study the problems and obstacles facing the procurement and supply process that could lead to the creation of local methodology

20. Methods used in the bidding process for the selection of a contractor or supplier shall be free from gaps and excesses. Although it is commonly it is a must/highly recommended to facilitate the bidding process free from gaps and excesses, but the percentage of (54.3%) of the agreed audients is very low. This can justify that the community of the construction industry is still far away from level of the standard quality.

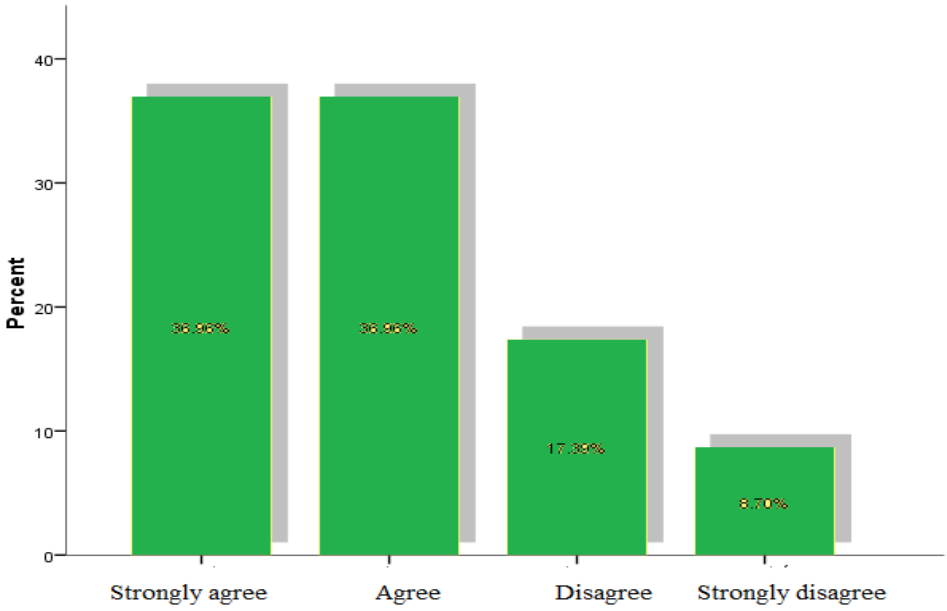
| Response | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Strongly agree | 7 | 15.2 | 15.2 | 15.2 |
| Agree | 18 | 39.1 | 39.1 | 54.3 |
| Disagree | 12 | 26.1 | 26.1 | 80.4 |
| Strongly disagree | 9 | 19.6 | 19.6 | 100.0 |
| **Total** | **46** | **100.0** | **100.0** | |




21. Bidding process is conducted to choose the right contractor for the project implementation.

74% of the respondents agree with this statement, which is good

| Response | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Strongly agree | 17 | 37.0 | 37.0 | 37.0 |
| Agree | 17 | 37.0 | 37.0 | 73.9 |
| Disagree | 8 | 17.4 | 17.4 | 91.3 |
| Strongly disagree | 4 | 8.7 | 8.7 | 100.0 |
| **Total** | **46** | **100.0** | **100.0** | |

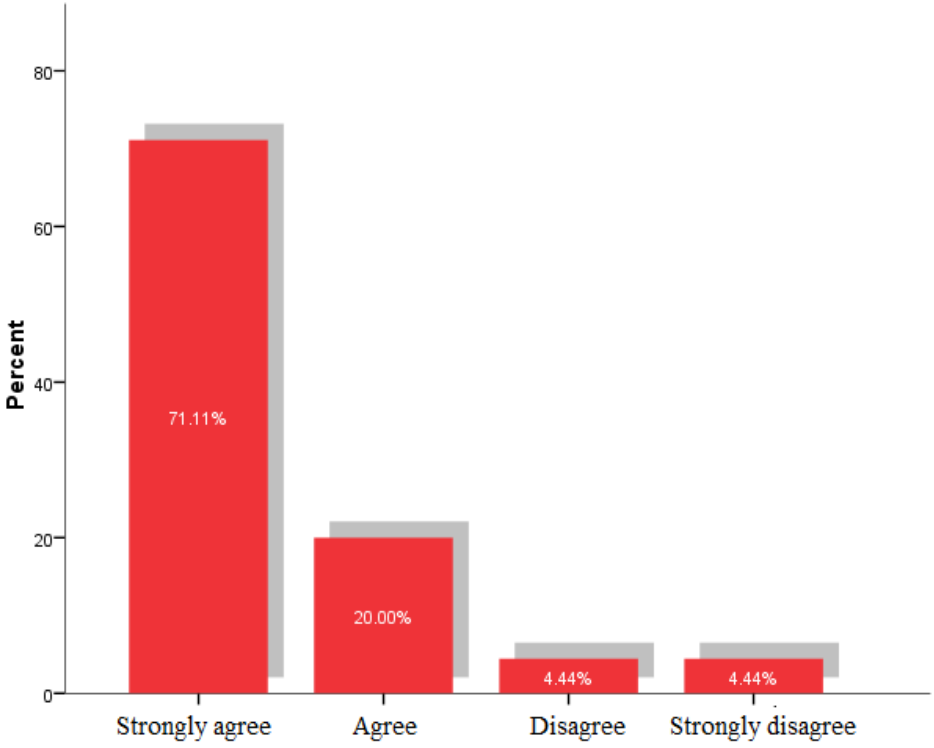



Bidding process is conducted to choose the right contractor for the project implementation

22. The wrong choice of the contractor causes of project failure.

This statement is rather opposites the above statement No. (21). 91.11% audients agree, this result translates the result of the question No (21) in different way.

| Response | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Strongly agree | 32 | 69.6 | 71.1 | 71.1 |
| Agree | 9 | 19.6 | 20.0 | 91.1 |
| Disagree | 2 | 4.3 | 4.4 | 95.6 |
| Strongly disagree | 2 | 4.3 | 4.4 | 100.0 |
| **Total** | **45** | **97.8** | **100.0** | |
| System | 1 | 2.2 | | |
| **Total** | **46** | **100.0** | | |

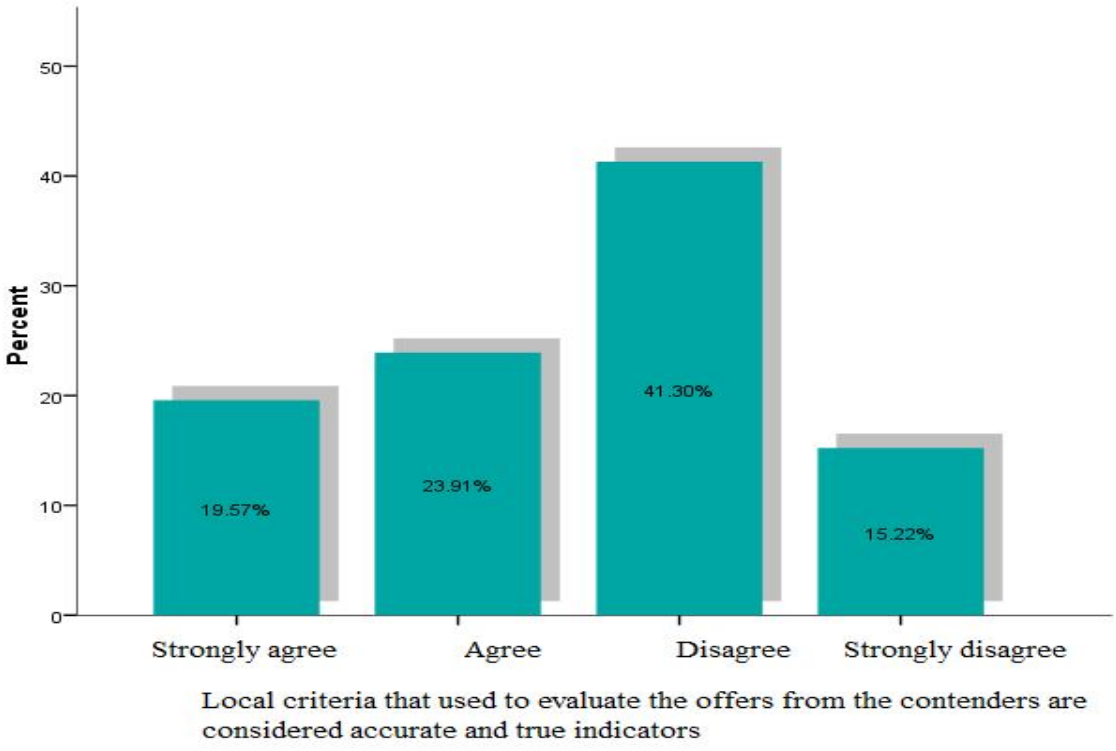



The wrong choice of the contractor causes of project failure

23. Local criteria that used to evaluate the offersfrom the contenders are considered accurate and true indicators

56.52% disagree. The evaluation criteria of bidding process need to be reviewed and improved.

| Response | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Strongly agree | 9 | 19.6 | 19.6 | 19.6 |
| Agree | 11 | 23.9 | 23.9 | 43.5 |
| Disagree | 19 | 41.3 | 41.3 | 84.8 |
| Strongly disagree | 7 | 15.2 | 15.2 | 100.0 |
| **Total** | **46** | **100.0** | **100.0** | |

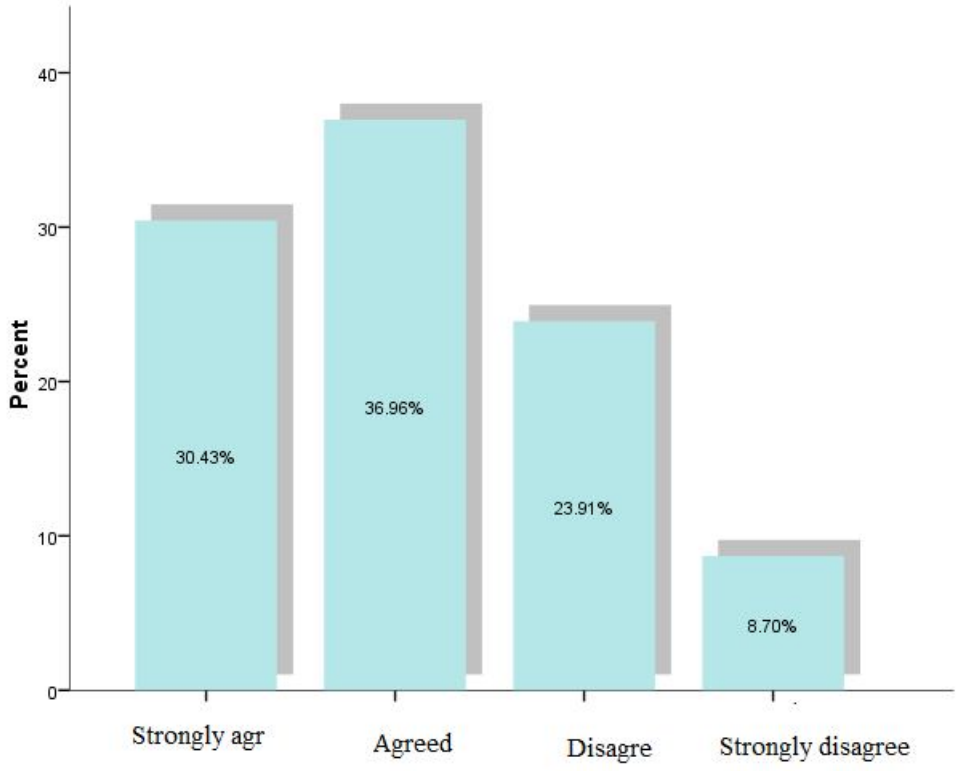



24. The local laws and regulations that used to regulate the management of tender processes are enough, but they need

activation.

67.4% reflects those who agreed among the respondents. This statement empowers the statement No (18) and (23).

| Response | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Strongly agree | 14 | 30.4 | 30.4 | 30.4 |
| Agree | 17 | 37.0 | 37.0 | 67.4 |
| Disagree | 11 | 23.9 | 23.9 | 91.3 |
| Strongly disagree | 4 | 8.7 | 8.7 | 100.0 |
| **Total** | **46** | **100.0** | **100.0** | |

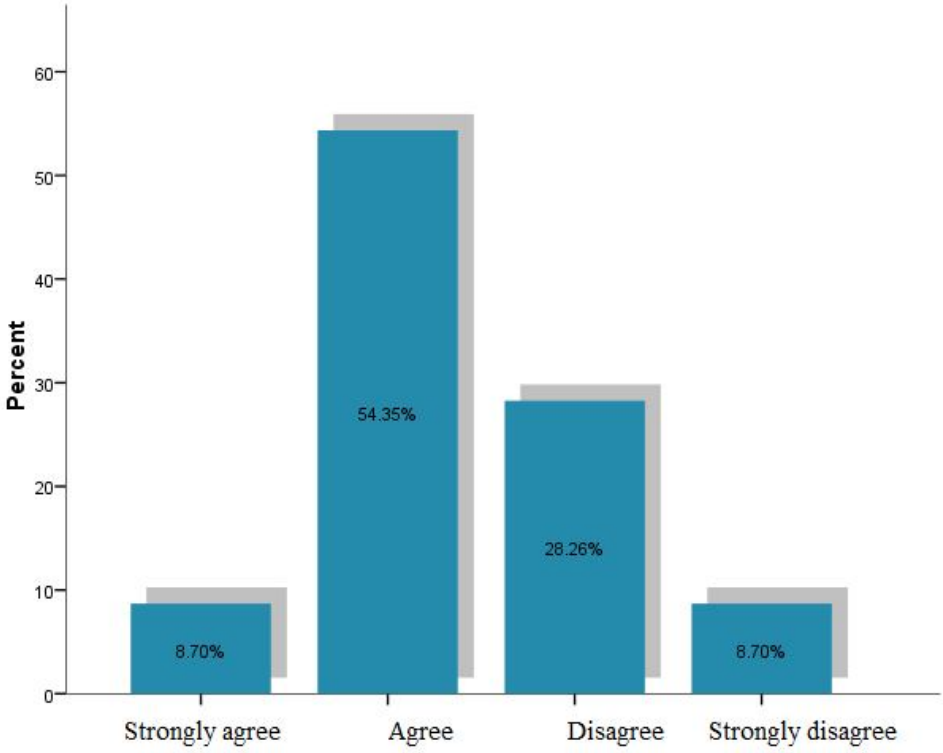



The local laws and regulations that used to regulate the management of tender processes, but they need activation

25. There are many attempts from various parties to correct the path of the construction industry and adjust its products.

63% of the respondents agree and this status can be considered as a right step to improve the procurement process in the construction industry.

| Response | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Strongly agree | 4 | 8.7 | 8.7 | 8.7 |
| Agree | 25 | 54.3 | 54.3 | 63.0 |
| Disagree | 13 | 28.3 | 28.3 | 91.3 |
| Strongly disagree | 4 | 8.7 | 8.7 | 100.0 |
| **Total** | **46** | **100.0** | **100.0** | |




There are many attempts from various parties to correct the path of the construction industry and adjust its products.

# CHAPTER FIVE

## 5.1 CONCLUSION AND RECOMMENDATIONS

Based on the findings and discussion of the study, it is recommended that:

(1) At the preliminary stage of the project, it is important that effective decision on determining the best method of procurement and finger cross to provide the actual specification of the selected materials that shall give the best result of the project scope of work.

(2) Project stakeholders are requested to adopt the best project financing, contractual systems, good practice planning, and methods of construction and all shall be taken at the right time. This helps in eliminating future disputes and variation between parties during the construction.

(3) Project managers must have an effective team of procurement to work with and learn more on leadership to know how to manage them because with good leadership skills the team would improve productivity. They should also understand well the characteristics of the project and the points of weakness.

(4) It is also important that the public authorities and teaching institutes shall adopt systems of training and education to the students under graduation.

(5) Project manager should manage his financial resources and plan procurement of materials, equipment, human resources and other related service.

(6) Project procurement team must be committed to their responsibilities and monitor the procurement progress closely especially in relation to initiation, planning, preparation of solicitation documents, bidding process, contract award and management, project closure and quality.

(7) There is a serious need to join a quantity surveyor to the project procurement team and he/she shall contribute in all stages of the procurement process, and

(8) The owner should follow the payment's schedule for the completion of construction work, minimize the changes in specifications during the construction so as not to cause delay in the project, and make sure that the construction firms possesses the requisite resources and capabilities before giving them a contract.

**Recommendations for Researchers in Future:**

a. Invest any chance of training or career development in the area of procurement.
b. The results of this research are not expected to stay permanently or for long time due to the high rate of changes in the local market of the construction industry in Sudan. Also lack of information shall be highly considered during the conducting of the local market research investigation.
c. There are many local authorities and international organizations that are currently working in Sudan applying the best Standards of Procurement systems; they can be communicated for the purpose of share of Knowledge.
**d.** Huge effort is needed to improve the application of the accurate procurement process in both of the private and public sector**.**

## 5.2 References:


1. Donaldson, LandScannell,E2009,**HumanResourceDevelopment**,ThenewTrainers. Guide2ndEdn,Addison-Wesley Publishing U.S.A.

2. Goleman, 02012,EmotionalIntelligence: **Why it can matter more than IQ**, Bloomsbury, London.

3. Goleman, D1992,**Working with Emotional Intelligence**, Bloomsbury, London. Howell,WS1992,the empathetic communicator, Wadsworth, BelmontCalifornia.

4. Publishing, 2009 U.S.A., Luft,JandIngham,H1955,TheJohariWindow: **Agraphic model for interpersonal relations**, University of California Western Training Lab.

5. Pike,R2014, **CreativeTrainingTechniques Handbook**, Lakewood Publications, U.S.A. Rylatt,AandLohan,K2014,CreatingTraining Miracles, Pfeiffer, California.

6. Salovey Pand MayerJD2010,**'Emotional Intelligence'**, Imagination,Cognitionandersonality,Vol.9No.3, pp.185-211.

**Internet Websites:**


1. www.cips.org
2. www.construction-innovation.info.com
3. www.academicresearchjournals.com
4. www.frontlinecoach.com.au

Table 2.1: Dividing of the procurement responsibilities between management, clients and end-users, technical staff, financial staff, and procurement staff. (3)

| Management | Clients and end-users | Financial staff | Procurement staff |
|---|---|---|---|
| • Understand the broader strategies and objectives of the organization<br>• identify appropriate procurement objectives,<br>• ensure cooperation and communication between project shareholders<br>• encourage flexibility, initiative and good judgment<br>• plan and coordinate | • evaluate the need and specify requirements for goods and services<br>• consult procurement staff, plan realistically and allow sufficient time for the procurement process<br>• avoid hiding | • Assist management in the preparation of procurement related budgets<br>• provide financial input to the procurement planning process<br>• monitor the cash flow | • assist in formulating procurement objectives, key success areas and key performance indicators<br>• formulate and implement procurement plans for individual purchases<br>• assist in |

| | | | |
|---|---|---|---|
| procurement against a framework of policies<br>• ensure that staff have relevant expertise<br>• review the effectiveness of decisions and performance<br>• encourage continuous improvement of procurement processes | complexity or scale by splitting requirements<br>• ensure procurement staff is provided with any information that might affect the method of procurement<br>• keep purchasing staff informed on market research with suppliers work together in | implications of individual procurement contracts<br>• provide ongoing financial advice to users<br>• assist with financial analysis,<br>• ensure proper documentation of the financial processes for procurement<br>• ensure procedures are in | formulating procurement strategies for commodities devise<br>• work together and cooperate with management, users, technical and financial staff<br>• consider the use of cross-functional procurement teams where appropriate<br>• confirm needs, assist in the |

| | | | |
|---|---|---|---|
| | cooperation with management, finance and procurement staff and be opening minded in regard to value for money | place to pay suppliers on time and in accordance with contractual agreements | development of specifications<br>• Ensure that contracts are clear and concise and document the procurement method used. |

جامعة السودان للعلوم و التكنولوجيا
كلية الدراسات العليا

و

مركز الدراسات الهندسية والتقنية

ماجستير إدارة تشييد

**إستبيان لبحث لنيل درجةالماجستير في إدارة التشييد بعنوان:**

**(Procurement Process in Construction Projects in Sudan)**

**ملحوظة :-**

هذا الإستبيان بغرض البحث العلمي وستكون كل المعلومات في سرية تامة.

**إرشاد:**

ضع علامة √ علي الإجابة التي تراها مناسبة

(**Please Double-Click at the box of your selected option, and then mark it**).

**١- الجزء الأول : بيانات شخصية :-**

الإسم :..... "غير إلزامي"

العمر :.....

الوظيفة :.....

المؤهل العلمي :.....

عدد سنوات الخبرة:.....

**٢- <u>الجزء الثانى : الأسئلة:-</u>**

١. أسعار مواد التشييد بالسوق المحلى تتعرض لتغييرات كبيرة وتفاوت فى الأسعار.

□أوافق بشدة

□ أوافق

□ لا أوافق

□ لا أوافق بشدة

٢. مواد التشييد المطروحة بالأسواق تعتبر ذات جودة عالية ودائماً تفى بالغرض.

□أوافق بشدة

□ أوافق

□ لا أوافق

□ لا أوافق بشدة

٣. هنالك تضارب واضح بين جودة المواد والأسعار المعروضة بها .

□أوافق بشدة

□ أوافق

□ لا أوافق

□ لا أوافق بشدة

٤. الكثير من مواد البناء يتم تخزينها بصورة سيئة مما يؤثر على جودة مواصفاتها.

□أوافق بشدة

□ أوافق

□ لا أوافق

□ لا أوافق بشدة

٥. يتطلب شراء مواد بناء من السوق المحلى خبرة معقولة فى مجال المواصفات والأسعار.

□أوافق بشدة

□ أوافق

□ لا أوافق

□ لا أوافق بشدة

٦. عملية الشراء من السوق المحلى غالباً تتم بالتراضى وبدون خطوات تعاقدية.

□أوافق بشدة

□ أوافق

□ لا أوافق

□ لا أوافق بشدة

٧. عملية الشراء من السوق يمكن أن تترتب عليها مسئوليات إدارية وقانونية.

□أوافق بشدة

□ أوافق

□ لا أوافق

□ لا أوافق بشدة

٨. عملية طلب الخدمة أياً كانت (النظافة-المقاولات- التصميم- الأمن والسلامة) تعتبر نوعاً من الشراء.

□أوافق بشدة

□ أوافق

□ لا أوافق

□ لا أوافق بشدة

٩. لا توجد منهجية محلية تضبط عملية الشراء فى صناعة التشييد.

□أوافق بشدة

□ أوافق

□ لا أوافق

□ لا أوافق بشدة

١٠. فى المؤسسة التى تعمل بها تتبع طريقة محددة لإختيار موردى المواد والمقاولين للمشروعات المختلفة.

□أوافق بشدة

□ أوافق

□ لا أوافق

□ لا أوافق بشدة

١١. عملية إختيار مورد أو مقاول تعتبر من المهام الصعبة والدقيقة التى تحتاج إلى معلومات معينة فى ظل أسس عادلة وواضحة.

□أوافق بشدة

□ أوافق

□ لا أوافق

□ لا أوافق بشدة

١٢. مدى تحقيق أهداف المشروع يرتبط إرتباطاً وثيقاً بطرق الشراء والإمداد وملاءمتها لطبيعة المشروع.

□أوافق بشدة

□ أوافق

□ لا أوافق

□ لا أوافق بشدة

١٣. مجتمع صناعة التشييد بالسودان يحظى بثقافة عالية حول ممارسة عملية الشراء والإمداد للمشروعات.

□أوافق بشدة

□ أوافق

□ لا أوافق

□ لا أوافق بشدة

١٤. عملية الشراء والإمداد عملية معروفة وتدرس ضمن المناهج التعليمية للمهندسين.

□أوافق بشدة

□ أوافق

□ لا أوافق

□ لا أوافق بشدة

١٥. معظم المواد التى يتم شراؤها من السوق لا تخضع لإختبارات معملية لفحص الجودة.

□أوافق بشدة

□ أوافق

□ لا أوافق

□ لا أوافق بشدة

١٦. غالباً لا يوجد لدى المؤسسات بالقطاعين العام والخاصحصراً دقيقاً لكميات ومواصفات المواد المطلوبة للمراحل اللاحقة.

□أوافق بشدة

□ أوافق

□ لا أوافق

□ لا أوافق بشدة

١٧. نظام إدخال وإخراج وحفظ المواد بالمخازن يتم تطبيقه بصورة كاملة بالمؤسسة.

□أوافق بشدة

□ أوافق

□ لا أوافق

□ لا أوافق بشدة

١٨. يمكن تطبيق النظم الأجنبية للشراء والإمداد ولا حاجة لإنشاء نظام محلى يراعى خصوصية البيئة المحلية.

□أوافق بشدة

□ أوافق

□ لا أوافق

□ لا أوافق بشدة

١٩. دراسة المشاكل والمعوقات التى تواجه عملية الشراء والإمداد يمكن أن تفضى إلى إنشاء منهجية محلية لإدارة وتنظيم عملية الشراء والإمداد.

□أوافق بشدة

□ أوافق

□ لا أوافق

□ لا أوافق بشدة

٢٠. الطرق المتبعة فى عملية العطاءات لإختيار المقاول أو المورد تكون خالية من الثغرات والتجاوزات.

□أوافق بشدة

□ أوافق

□ لا أوافق

□ لا أوافق بشدة

٢١. عملية العطاءات تهدف إلى إختيار المقاول المناسب لتنفيذ المشروع.

□أوافق بشدة

□ أوافق

□ لا أوافق

□ لا أوافق بشدة

٢٢. الإختيار الخاطىء للمقاول من أسباب فشل المشروع.

□أوافق بشدة

□ أوافق

□ لا أوافق

□ لا أوافق بشدة

٢٣. المعايير المحلية المستخدمة لتقييم العروض المقدمة من المتنافسين تعتبر مؤشرات دقيقة وحقيقية.

□أوافق بشدة

□ أوافق

□ لا أوافق

□ لا أوافق بشدة

٢٤. توجد قوانين ولوائح محلية تعمل على تنظيم وإدارة عمليات العطاءات والمناقصات ولكن تحتاج إلى تفعيل.

□أوافق بشدة

□ أوافق

□ لا أوافق

□ لا أوافق بشدة

٢٥. هنالك العديد من المحاولات من الجهات المختلفة لتصحيح مسار صناعة التشييد وضبط منتجاتها.

□أوافق بشدة

□ أوافق

□ لا أوافق

□ لا أوافق بشدة

والله الموفق